

## **APPENDIX H**

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### Qualitative Sample Characteristics Forms and Field Forms for Perimeter Sampling

# PERIMETER MONITORING FIELD FORMS



**PRE-  
CONSTRUCTION  
GRAB SAMPLE  
QUALITATIVE  
CHARACTERISTICS  
FORMS**

**DECEMBER  
2013**

SD-PER101-1213

## Page of

Aminyl Field Forms\QSC

## Page of

Ampin\Field Forms\QSC

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				12-13-13		Boeing PL2		SD-PER 101 R3			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
199742			1271450			20.1	f t	3	0.2 Grab	825	
Penetration			Sulfide	VOA	Weather	Surficial Wood Estimate:					
Depth	Unit	Initials				Contact Points					
10	c m	JB			cloudy	_____ X 5 = _____ %					
Surficial sediment characteristics:											
Biological:		0		%		Debris:		TRACE		%	
Oil Sheen:		None		%		Trace (<5%)		_____		%	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		Gray		Brown	
										Black	
										Other _____	
Major Constituent											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff	
										Hard	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		Gray		Brown	
										Black	
										Other _____	
Major Constituent											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Biological:		trace		%		Debris:		trace		%	
Oil Sheen:		None		%		Trace (<5%)		_____		%	
Comments:											
leaves, shells											
worms											



SD-PER102-1213

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				12-17-13		Boeing PL2		SD-PER 102R1			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
199660			1271401			27.4	f t	1	0.2 Grab	1202	
Penetration			Sulfide	VOA	Weather	Surficial Wood Estimate:					
Depth	Unit	Initials				Contact Points _____ X 5 = _____ %					
10	c m	CJ									
Surficial sediment characteristics:											
Biological:		Trace		%		Debris:		5		%	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray	
								Brown		Black	
										Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray	
										Brown	
										Black	
										Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Biological:		Trace		%		Debris:		Trace		%	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray	
										Brown	
										Black	
										Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Biological:		Trace		%		Debris:		Trace		%	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray	
										Brown	
										Black	
										Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Biological:		Trace		%		Debris:		Trace		%	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray	
										Brown	
										Black	
										Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Biological:		Trace		%		Debris:		Trace		%	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray	
										Brown	
										Black	
										Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Biological:		Trace		%		Debris:		Trace		%	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray	
										Brown	
										Black	
										Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Biological:		Trace		%		Debris:		Trace		%	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray	
										Brown	
										Black	
										Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Biological:		Trace		%		Debris:		Trace		%	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray	
										Brown	
										Black	
										Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Biological:		Trace		%		Debris:		Trace		%	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray	
										Brown	
										Black	
										Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Biological:		Trace		%		Debris:		Trace		%	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray	
										Brown	
										Black	
										Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Biological:		Trace		%		Debris:		Trace		%	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray	
										Brown	
										Black	
										Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Biological:		Trace		%		Debris:		Trace		%	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray	
										Brown	
										Black	
										Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Biological:		Trace		%		Debris:		Trace		%	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray	
										Brown	
										Black	
										Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Biological:		Trace		%		Debris:		Trace		%	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray	
										Brown	
										Black	
										Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Biological:		Trace		%		Debris:		Trace		%	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray	
										Brown	
										Black	
										Other	

## Page \_\_\_\_ of \_\_\_\_

**Surficial sediment characteristics:**

**Moisture**  
Very Wet   Wet   Moist   Damp   Dry

**Major Constituent** (Circle major & underline modifying)

Fine	Medium	Coarse	Gravel	Sand	Silt	Clay
------	--------	--------	--------	------	------	------

Minor-Constituent with trace

### Density / Consistency

<b>Sand / Gravel -</b>	Very Loose	Loose	Medium Dense	Dense	Very Dense	
<b>Silt / Clay -</b>	Very Soft	Soft	Medium Stiff	Stiff	Very Stiff	Hard

**Moisture**  
Very Wet   Wet   Moist   Damp   Dry

Color (Circle major & underline modifying)

Major Constituent (Circle major & underline modifying)

Minor Constituent with trace

Biological: Trace % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

Comments:

Comments:  
Biological: barnacles, worms  
Debris: twigs, leaves, shells



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Penetration			Initials	Sulfide	VOA	Weather	Fines (%)
Depth	Unit						
10	c	m	CJ			5-10	

## Contact Points

X 5 = %

Biological: Trace %    Debris: Trace %    Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

Color (Circle major & underline modifying)

Light	Medium	Dark	Olive	Gray	Brown	Black	Other
-------	--------	------	-------	------	-------	-------	-------

Major Constituent (Circle major & underline modifying)

Minor Constituent with trace

### Density / Consistency

<b><u>Sand / Gravel -</u></b>	Very Loose	Loose	Medium Dense	Dense	Very Dense	
<b><u>Silt / Clay -</u></b>	Very Soft	Soft	Medium Stiff	Stiff	Very Stiff	Hard

**Moisture**  
Very Wet   Wet   Moist   Damp   Dry

Color                      (Circle major & underline modifying)

Light           Medium      Dark           Olive      Gray      Brown      Black      Other

**Major Constituent**

Fine	Medium	Coarse	Gravel	Sand	Silt	Clay
------	--------	--------	--------	------	------	------

Minor Constituent with trace

Biological: Trace %    Debris: Trace %    Oil Sheen: None    Trace (<5%) \_\_\_\_\_ %

Comments:  
Biological: mussels, worms  
Debris: twigs, shells

SD-PER103-1213

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				12-17-13		Boeing PL2		SD-PER 103 81			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
199652			1271502			225	f t	1	0.2 Grab	1055	
Penetration		Unit	Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %			
Depth											
10	c m		CS			cloudy					
Surficial sediment characteristics:											
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)						%	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		Gray		Brown	
								Black		Other	
Major Constituent											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff	
										Hard	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		Gray		Brown	
								Black		Other	
Major Constituent											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)						%	
Comments:											
Biological: worms, mussels											
Debris: twigs, shells, leaves, wire											
AMEC Proj. BP2 Perimeter											
SD-PER103-1213											
QSC Form											
Initials: bsh											
Date: 10/17/2013 Time: 1055											

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				12-17-13		Boeing PL2		SD-PER 103 R2			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
199653			1271506			19.8	f t	2	0.2 Grab	1106	
Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	<b>Surficial Wood Estimate:</b> <b>Contact Points</b> _____ X 5 = _____ %				
Depth	Unit										
10	cm	CT			cloudy						
<b>Surficial sediment characteristics:</b> Biological: <u>Trace</u> %    Debris: <u>Trace</u> %    Oil Sheen: <u>None</u> Trace (<5%) _____ % Moisture Very Wet <u>Wet</u> Moist    Damp    Dry Color Light <u>Medium</u> Dark    Olive <u>Gray</u> <u>Brown</u> Black    Other _____ Major Constituent <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay _____ Minor Constituent with trace <u>Fine</u> Medium    Coarse    Gravel <u>Sand</u> Silt    Clay _____											
<b>Subsurface sediment characteristics:</b> Density / Consistency <u>Sand / Gravel -</u> Very Loose    Loose    Medium Dense    Dense    Very Dense <u>Silt / Clay -</u> <u>Very Soft</u> Soft    Medium Stiff    Stiff    Very Stiff    Hard Moisture Very Wet <u>Wet</u> Moist    Damp    Dry Color Light    Medium <u>Dark</u> Olive <u>Gray</u> Brown    Black    Other _____ Major Constituent <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay _____ Minor Constituent with trace <u>Fine</u> Medium    Coarse    Gravel <u>Sand</u> Silt    Clay _____ Biological: <u>Trace</u> %    Debris: <u>34</u> %    Oil Sheen: <u>None</u> <u>Trace (&lt;5%)</u> _____ %											
<b>Comments:</b> <u>Biological: mussels</u> <u>Debris: wood debris</u> _____ _____ _____ _____ _____ _____											



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Penetration		Initials	Sulfide	VOA	Weather	Fines (%)
Depth	Unit					
18	c m	CS			clay	

## Contact Points

X 5 = %

Biological: Trace % Debris: 15 % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

Color                      (Circle major & underline modifying)

Light      Medium      Dark      Olive      Gray      Brown      Black      Other

Major Constituent (Circle major & underline modifying)

<u>Fine</u>	Medium	Coarse	Gravel	Sand	<u>Silt</u>	Clay
-------------	--------	--------	--------	------	-------------	------

Minor Constituent with trace

### Density / Consistency

<b><u>Sand / Gravel -</u></b>	Very Loose	Loose	Medium Dense	Dense	Very Dense	
<b><u>Silt / Clay -</u></b>	Very Soft	Soft	Medium Stiff	Stiff	Very Stiff	Hard

Color                      (Circle major & underline modifying)

Light           Medium           Dark           Olive           Gray           Brown           Black           Other

Major Constituent (Circle major & underline modifying)

Minor Constituent with trace

Biological: Trace % Debris: 15 % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

Biological: worms, bacteria, mussels  
Dietary: shells, leaves

SD-PER104-1213

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____														
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number																
				12-17-13		Boeing PL2		SD-PER 104 R1																
Coordinates						Water Depth				Time														
North			East			Depth	Unit	Rep	Gear															
199570			1271345			25.9	f t	1	0.2 Grab	1258														
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="2">Penetration</td> <td rowspan="2">Initials</td> <td rowspan="2">Sulfide</td> <td rowspan="2">VOA</td> <td rowspan="2">Weather</td> <td rowspan="2">Fines (%)</td> </tr> <tr> <td>Depth</td> <td>Unit</td> </tr> <tr> <td>12</td> <td>cm</td> <td>CS</td> <td></td> <td></td> <td>cloudy</td> <td></td> </tr> </table>				Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	Depth	Unit	12	cm	CS			cloudy		<b>Surficial Wood Estimate:</b> <b>Contact Points</b> _____ X 5 = _____ %				
Penetration		Initials	Sulfide	VOA	Weather						Fines (%)													
Depth	Unit																							
12	cm	CS			cloudy																			
<b>Surficial sediment characteristics:</b> Biological: <u>Trace</u> %    Debris: <u>Trace</u> %    Oil Sheen: <u>None</u> Trace (<5%) _____ % Moisture Very Wet <u>Wet</u> Moist    Damp    Dry Color Light <u>Medium</u> Dark    Olive <u>Gray</u> <u>Brown</u> Black    Other _____ (Circle major & underline modifying) Major Constituent <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay (Circle major & underline modifying) Minor Constituent with trace <u>Fine</u> Medium    Coarse    Gravel    Sand    Silt    Clay																								
<b>Subsurface sediment characteristics:</b> Density / Consistency <u>Sand / Gravel -</u> Very Loose    Loose    Medium Dense    Dense    Very Dense <u>Silt / Clay -</u> Very Soft    Soft <u>Medium Stiff</u> Stiff    Very Stiff    Hard Moisture Very Wet <u>Wet</u> Moist    Damp    Dry Color Light    Medium <u>Dark</u> Olive <u>Gray</u> Brown    Black    Other _____ (Circle major & underline modifying) Major Constituent <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay (Circle major & underline modifying) Minor Constituent with trace <u>Fine</u> Medium    Coarse    Gravel    Sand    Silt    Clay Biological: <u>Trace</u> %    Debris: <u>Trace</u> %    Oil Sheen: <u>None</u> Trace (<5%) _____ %																								
<b>Comments:</b> <u>Biological: worms</u> <u>Debris: leaves, twigs</u> _____ _____ _____ _____ _____ _____ _____																								
AMEC Proj. BP2 Perimeter SD-PER104-1213 QSC Form Initials: <u>GSM</u> Date: <u>12/17</u> /2013 Time: <u>1258</u>																								

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Penetration		Initials	Sulfide	VOA	Weather	Fines (%)
Depth	Unit					
10	c m	ET			clay	

## Contact Points

X 5 = %

Biological: Trace %      Debris: Trace %      Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

Color (Circle major & underline modifying)

Minor Constituent with trace

<b>Sand / Gravel -</b>	Very Loose	Loose	Medium Dense	Dense	Very Dense	
<b>Silt / Clay -</b>	Very Soft	Soft	Medium Stiff	Stiff	Very Stiff	Hard

Color                      (Circle major & underline modifying)

Light                  Medium                  Dark                  Olive                  Gray                  Brown                  Black                  Other

Minor Constituent with trace

Biological: Trace %    Debris: Trace %    Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

Biological notes  
Dolomieu leaves



## Page      of

Penetration		Initials	Sulfide	VOA	Weather	Fines (%)
Depth	Unit					
12	c m	Cat			cloudy	

### Contact Points

X5 = %

Biological: Trace %    Debris: Trace %    Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

**Moisture**  
Very Wet   Wet   Moist   Damp   Dry

Color                      (Circle major & underline modifying)


Light      Medium      Dark      Olive      Gray      Brown      Black      Other

Major Constituent (Circle major & underline modifying)

Minor Constituent with trace

### Density / Consistency

<b><u>Sand / Gravel -</u></b>	Very Loose	Loose	Medium Dense	Dense	Very Dense	
<b><u>Silt / Clay -</u></b>	Very Soft	Soft	Medium Stiff	Stiff	Very Stiff	Hard

**Moisture**            Moist      Damp      Dry

Color

Light	Medium	Dark	Olive	Gray	Brown	Black	Other
-------	--------	------	-------	------	-------	-------	-------

(Circle-major & underline modifying)

Major Constituent (Circle major & underline modifying)

Minor Constituent with trace

Biological: Trace %    Debris: Trace %    Oil Sheen: None    Trace (<5%) \_\_\_\_\_ %

Biological: Worms  
Debris: leaves

SD-PER105-1213

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number		
				12-19-13		Boeing PL2		SD-PER 105 R1		
Coordinates						Water Depth				
North			East			Depth	Unit	Rep	Gear	
149569			1271445			26.8	f t		0.2 Grab	
Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	<b>Surficial Wood Estimate:</b> <b>Contact Points</b> _____ X 5 = _____ %			
Depth	Unit									
12	c m	CS			partly cloudy					
<b>Surficial sediment characteristics:</b> Biological: <u>Trace</u> %    Debris: <u>Trace</u> %    Oil Sheen: <u>None</u> Trace (<5%) _____ % Moisture Very Wet <u>Wet</u> Moist    Damp    Dry Color Light <u>Medium</u> Dark    Olive <u>Gray</u> <u>Brown</u> Black    Other _____ Major Constituent <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay _____ Minor Constituent with trace <u>Fine</u> Medium    Coarse    Gravel <u>Sand</u> Silt    Clay _____										
<b>Subsurface sediment characteristics:</b> Density / Consistency <u>Sand / Gravel</u> -    Very Loose    Loose    Medium Dense    Dense    Very Dense <u>Silt / Clay</u> -    Very Soft <u>Soft</u> Medium Stiff    Stiff    Very Stiff    Hard Moisture Very Wet <u>Wet</u> Moist    Damp    Dry Color Light    Medium <u>Dark</u> Olive <u>Gray</u> Brown    Black    Other _____ Major Constituent <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay _____ Minor Constituent with trace <u>Fine</u> Medium    Coarse    Gravel <u>Sand</u> Silt    Clay _____ Biological: <u>Trace</u> %    Debris: <u>Trace</u> %    Oil Sheen: <u>None</u> Trace (<5%) _____ %										
<b>Comments:</b> <u>Biological: worms</u> <u>Debris: twigs, leaves</u> _____ _____ _____ _____ _____ _____ _____										
						AMEC Proj. BP2 Perimeter SD-PER105-1213 QSC Form Initials: <u>GSW</u> Date: <u>12/19</u> /2013 Time: <u>1221</u>				

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SD-PER106-1213

# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	12-12-13	Boeing PL2	SD-PER 106 R1

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
199426	1271457	21.8	f t	1	0.2 Grab	850

Penetration	Unit	Initials	Sulfide	VOA	Weather	Fines (%)
Depth						
12	c m	JB			overcast	

Surficial Wood Estimate:

Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: 0 % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

Moisture  
Very Wet Wet Moist Damp Dry

Color  
Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_  
(Circle major & underline modifying)

Major Constituent  
Fine Medium Coarse Gravel Sand Silt Clay  
(Circle major & underline modifying)

Minor Constituent with trace  
Fine Medium Coarse Gravel Sand Silt Clay

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense  
Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

Moisture  
Very Wet Wet Moist Damp Dry

Color  
Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_  
(Circle major & underline modifying)

Major Constituent  
Fine Medium Coarse Gravel Sand Silt Clay  
(Circle major & underline modifying)

Minor Constituent with trace  
Fine Medium Coarse Gravel Sand Silt Clay

Biological: Trace % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Comments:

twigs  
worms

AMEC Proj. BP2 Perimeter

SD-PER106-1213

QSC Form

Initials: SW

Date: 12/13 /2013 Time: 850

## Page of

Penetration		Initials	Sulfide	VOA	Weather	Fines (%)
Depth	Unit					
12	c m	JB			overcast	

## Contact Points

X 5 = %

Biological: 0 % Debris: Trace % Oil Sheen: (None) Trace (<5%) \_\_\_\_\_ %

Moisture      Wet      Moist      Damp      Dry

Color                      (Circle major & underline modifying)

Light      Medium      Dark      Olive      Gray      Brown      Black      Other

**Major Constituent**

Fine	Medium	Coarse	Gravel	Sand	Silt	Clay
------	--------	--------	--------	------	------	------

Minor Constituent with trace

## Density / Consistency

Sand / Gravel -	Very Loose	Loose	Medium Dense	Dense	Very Dense
-----------------	------------	-------	--------------	-------	------------

**Silt / Clay -**    Very Soft    Soft    Medium Stiff    Stiff    Very Stiff    Hard

**Moisture**  
Very Wet   Wet   Moist   Damp   Dry

Color

Light	Medium	Dark	Olive	Gray	Brown	Black	Other
-------	--------	------	-------	------	-------	-------	-------

**Major Constituent**

Fine	Medium	Coarse	Gravel	Sand	Silt	Clay
------	--------	--------	--------	------	------	------

Minor Constituent with trace

Biological: trace %    Debris: trace %    Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

.....  
**Comments:**

Comments: Shells turn worms



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SD-PER126-1213

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number		
				12-13-13		Boeing PL2		SD-PER 126 83		
Coordinates						Water Depth				
North			East			Depth	Unit	Rep	Gear	
199434			1271454			23.5	f t	1	0.2 Grab	
Penetration		Unit	Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %		
Depth										
10	c m					overcast				
Surficial sediment characteristics:										
Biological:		0 %		Debris:		trace %		Oil Sheen: None Trace (<5%) %		
Moisture		Very Wet		Wet		Moist		Damp Dry		
Color		Light		Medium		Dark		(Circle major & underline modifying) Olive Gray Brown Black Other		
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying) Gravel Sand Silt Clay		
Minor Constituent with trace		Fine		Medium		Coarse		Gravel Sand Silt Clay		
Subsurface sediment characteristics:										
Density / Consistency										
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense Very Dense		
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff Very Stiff Hard		
Moisture		Very Wet		Wet		Moist		Damp Dry		
Color		Light		Medium		Dark		(Circle major & underline modifying) Olive Gray Brown Black Other		
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying) Gravel Sand Silt Clay		
Minor Constituent with trace		Fine		Medium		Coarse		Gravel Sand Silt Clay		
Biological:		trace %		Debris:		Trace %		Oil Sheen: None Trace (<5%) %		
Comments:										
Leaves twigs, shells										
Worked										
AMEC Proj. BP2 Perimeter										
SD-PER126-1213										
QSC Form										
Initials: GSN										
Date: 12/13/2013 Time: 931										

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SD-PER201-1213

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SD-PER202-1213

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number		
				12-12-13		Boeing PL2		SD-PER 202 R1		
Coordinates						Water Depth		Time		
North			East			Depth	Unit	Rep	Gear	
198 118			127 2929			—	f t	1	0.2 Grab	
Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: <i>water current too strong</i> Contact Points _____ X 5 = _____ %			
Depth	Unit									
10	c m	JB			dandy					
Surficial sediment characteristics:										
Biological:		0 %		Debris:		Trace %		Oil Sheen: None Trace (<5%) %		
Moisture		Very Wet		Wet		Moist		Damp Dry		
Color		Light		Medium		Dark		(Circle major & underline modifying) Olive Gray <u>Brown</u> Black Other _____		
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying) Gravel Sand <u>Silt</u> Clay _____		
Minor Constituent with trace		Fine		Medium		Coarse		Gravel <u>Sand</u> Silt Clay _____		
Subsurface sediment characteristics:										
Density / Consistency										
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense Very Dense		
Silt / Clay -		Very Soft		Soft		<u>Medium Stiff</u>		Stiff Very Stiff Hard		
Moisture		Very Wet		Wet		Moist		Damp Dry		
Color		Light		Medium		Dark		(Circle major & underline modifying) Olive <u>Gray</u> Brown <u>Black</u> Other _____		
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying) Gravel Sand <u>Silt</u> Clay _____		
Minor Constituent with trace		Fine		Medium		Coarse		Gravel Sand Silt Clay _____		
Biological:		Trace %		Debris:		Trace %		Oil Sheen: None Trace (<5%) %		
Comments:										
<i>shallow surface</i>										
AMEC Proj. BP2 Perimeter										
SD-PER202-1213										
QSC Form										
Initials: <i>SSM</i>										
Date: 12 / 12 / 2013 Time: 1435										

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**Surficial sediment characteristics:**

Minor Constituent with trace

Shells in SWF (Ca)



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**SD-PER203-1213**

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____															
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number																	
				12-11-13		Boeing PL2		SD-PER 203 R1																	
Coordinates						Water Depth				Time															
North			East			Depth	Unit	Rep	Gear																
198136			1272618			16.3	f t	1	0.2 Grab	1156															
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="2">Penetration</td> <td rowspan="2">Initials</td> <td rowspan="2">Sulfide</td> <td rowspan="2">VOA</td> <td rowspan="2">Weather</td> <td rowspan="2">Fines (%)</td> </tr> <tr> <td>Depth</td> <td>Unit</td> </tr> <tr> <td>10</td> <td>c m</td> <td>CS</td> <td></td> <td></td> <td>partly dark</td> <td></td> </tr> </table>				Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	Depth	Unit	10	c m	CS			partly dark		<b>Surficial Wood Estimate:</b> <b>Contact Points</b> _____ X 5 = _____ %					
Penetration		Initials	Sulfide	VOA	Weather						Fines (%)														
Depth	Unit																								
10	c m	CS			partly dark																				
<b>Surficial sediment characteristics:</b>																									
Biological:		trace		%		Debris:		trace		%															
Oil Sheen:		None		%		Trace (<5%)		%																	
<b>Moisture</b>																									
Very Wet		Wet		Moist		Damp		Dry																	
<b>Color</b>																									
Light		Medium		Dark		Olive		Gray		Brown															
(Circle major & underline modifying)																									
<b>Major Constituent</b>																									
Fine		Medium		Coarse		Gravel		Sand		Silt															
(Circle major & underline modifying)																									
<b>Minor Constituent with trace</b>																									
Fine		Medium		Coarse		Gravel		Sand		Silt															
<b>Subsurface sediment characteristics:</b>																									
<b>Density / Consistency</b>																									
<u>Sand / Gravel -</u>		Very Loose		Loose		Medium Dense		Dense		Very Dense															
<u>Silt / Clay -</u>		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff															
<b>Moisture</b>																									
Very Wet		Wet		Moist		Damp		Dry																	
<b>Color</b>																									
Light		Medium		Dark		Olive		Gray		Brown															
(Circle major & underline modifying)																									
<b>Major Constituent</b>																									
Fine		Medium		Coarse		Gravel		Sand		Silt															
(Circle major & underline modifying)																									
<b>Minor Constituent with trace</b>																									
Fine		Medium		Coarse		Gravel		Sand		Silt															
Biological:		Trace		%		Debris:		Trace		%															
Oil Sheen:		None		%		Trace (<5%)		%																	
<b>Comments:</b>																									
AMEC Proj. BP2 Perimeter SD-PER203-1213 QSC Form Initials: GSV Date: 12/11/2013 Time: 1156																									

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SD-PER204-1213

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				12.11-13		Boeing PL2		SD-PER 204 R1			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
197914			1273009			27.2	f t	1	0.2 Grab	1238	
Penetration			Sulfide	VOA	Weather	Surficial Wood Estimate:					
Depth	Unit	Initials				Contact Points					
12	c m	CT			partly cloudy	_____ X 5 = _____ %					
Surficial sediment characteristics:											
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)						%	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		Gray		Brown	
										Black	
										Other _____	
Major Constituent											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff	
										Hard	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		Gray		Brown	
										Black	
										Other _____	
Major Constituent											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)						%	
Comments:											
<div style="float: right; text-align: right;">           AMEC Proj. BP2 Perimeter            SD-PER204-1213            QSC Form            Initials: GSN            Date: 12/11/2013 Time: 1238         </div>											

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QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____														
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number																
				12-14-13		Boeing PL2		SD-PER 204 R3																
Coordinates						Water Depth				Time														
North			East			Depth	Unit	Rep	Gear															
147917			1273011			27.1	f t	3	0.2 Grab	1309														
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="2">Penetration</td> <td rowspan="2">Initials</td> <td rowspan="2">Sulfide</td> <td rowspan="2">VOA</td> <td rowspan="2">Weather</td> <td rowspan="2">Fines (%)</td> </tr> <tr> <td>Depth</td> <td>Unit</td> </tr> <tr> <td style="text-align: center;">12</td> <td style="text-align: center;">c m</td> <td style="text-align: center;">JB</td> <td></td> <td></td> <td style="text-align: center;">silty clay</td> <td></td> </tr> </table>				Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	Depth	Unit	12	c m	JB			silty clay		<b>Surficial Wood Estimate:</b> <b>Contact Points</b> _____ X 5 = _____ %				
Penetration		Initials	Sulfide	VOA	Weather						Fines (%)													
Depth	Unit																							
12	c m	JB			silty clay																			
<b>Surficial sediment characteristics:</b> Biological: <u>0</u> %    Debris: <u>TRACE</u> %    Oil Sheen: <u>None</u> Trace (<5%) _____ % Moisture: <u>Wet</u> Moist    Damp    Dry Color: <u>Medium</u> Dark    Olive    Gray <u>Brown</u> Black    Other _____ (Circle major & underline modifying) Major Constituent: <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay (Circle major & underline modifying) Minor Constituent with trace: <u>Fine</u> Medium    Coarse    Gravel <u>Sand</u> Silt    Clay																								
<b>Subsurface sediment characteristics:</b> Density / Consistency <u>Sand / Gravel</u> -    Very Loose    Loose    Medium Dense    Dense    Very Dense <u>Silt / Clay</u> -    Very Soft    Soft <u>Medium Stiff</u> Stiff    Very Stiff    Hard Moisture:    Very Wet <u>Wet</u> Moist    Damp    Dry Color:    Light <u>Medium</u> Dark    Olive <u>Gray</u> Brown    Black    Other _____ (Circle major & underline modifying) Major Constituent: <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay (Circle major & underline modifying) Minor Constituent with trace: <u>Fine</u> Medium    Coarse    Gravel    Sand    Silt    Clay Biological: <u>TRACE</u> %    Debris: <u>TRACE</u> %    Oil Sheen:    None    Trace (<5%) _____ % Comments: <u>highly gray</u> _____ _____ _____ _____ _____ _____ _____																								

SD-PER205-1213

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____																		
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number																				
				12-11-13		Boeing PL2		SD-PER 205 R1																				
Coordinates						Water Depth				Time																		
North			East			Depth	Unit	Rep	Gear																			
197721			1273382			27.2	f t	1	0.2 Grab	1334																		
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>Penetration</td> <td></td> <td></td> <td>Sulfide</td> <td>VOA</td> <td>Weather</td> <td>Fines (%)</td> </tr> <tr> <td>Depth</td> <td>Unit</td> <td>Initials</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>12</td> <td>c m</td> <td>MB</td> <td></td> <td></td> <td>cloudy</td> <td></td> </tr> </table>				Penetration			Sulfide	VOA	Weather	Fines (%)	Depth	Unit	Initials					12	c m	MB			cloudy		<b>Surficial Wood Estimate:</b> <b>Contact Points</b> _____ X 5 = _____ %			
Penetration			Sulfide	VOA	Weather	Fines (%)																						
Depth	Unit	Initials																										
12	c m	MB			cloudy																							
<b>Surficial sediment characteristics:</b>																												
Biological:		6 %		Debris:		Trace %		Oil Sheen:		None Trace (<5%) _____ %																		
Moisture		Very Wet		Wet		Moist		Damp		Dry																		
Color		Light		Medium		Dark		Olive		Gray Brown Black Other _____																		
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay _____																		
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay _____																		
<b>Subsurface sediment characteristics:</b>																												
<b>Density / Consistency</b>																												
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense																		
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard																		
Moisture		Very Wet		Wet		Moist		Damp		Dry																		
Color		Light		Medium		Dark		Olive		Gray Brown Black Other _____																		
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay _____																		
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay _____																		
Biological:		trace %		Debris:		trace %		Oil Sheen:		None Trace (<5%) _____ %																		
<b>Comments:</b>																												
Grass, weeds																												
AMEC Proj. BP2 Perimeter																												
SD-PER205-1213																												
QSC Form																												
Initials: GJM																												
Date: 12 / 11 / 2013 Time: 1334																												

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Comments:

grass, shells, worms





SD-PER206-1213

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				12-12-13		Boeing PL2		SD-PER 206 181			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
197709			1273136			12.5	f t	1	0.2 Grab	905	
Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %				
Depth	Unit										
10	c m	CJ			Y-10, 10/10						
Surficial sediment characteristics:											
Biological:		Trace		%		Debris:		0		%	
Oil Sheen:		None		Trace (<5%)						%	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray	
								Brown		Black	
								Other			
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff	
										Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray	
										Brown	
										Black	
										Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Biological:		Trace		%		Debris:		0		%	
Oil Sheen:		None		Trace (<5%)						%	
Comments:											
Trace biological consists of worms											
AMEC Proj. BP2 Perimeter											
SD-PER206-1213											
QSC Form											
Initials: GSN											
Date: 12 / 12 / 2013 Time: 905											

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____													
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number															
				12.12.13		Boeing PL2		SD-PER 206 R2															
Coordinates						Water Depth				Time													
North			East			Depth	Unit	Rep	Gear														
197705			1273131			12.8	f t	2	0.2 Grab	917													
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="2">Penetration</td> <td rowspan="2">Sulfide</td> <td rowspan="2">VOA</td> <td rowspan="2">Weather</td> <td rowspan="2">Fines (%)</td> </tr> <tr> <td>Depth</td> <td>Unit</td> </tr> <tr> <td>12</td> <td>c m</td> <td>0.5</td> <td></td> <td>partly - 1/2 in</td> <td></td> </tr> </table>				Penetration		Sulfide	VOA	Weather	Fines (%)	Depth	Unit	12	c m	0.5		partly - 1/2 in		<b>Surficial Wood Estimate:</b> <b>Contact Points</b> _____ X 5 = _____ %					
Penetration		Sulfide	VOA	Weather	Fines (%)																		
Depth	Unit																						
12	c m	0.5		partly - 1/2 in																			
<b>Surficial sediment characteristics:</b> Biological: <u>Trace</u> %    Debris: <u>Trace</u> %    Oil Sheen: None    Trace (<5%) _____ % Moisture: Very Wet <u>Wet</u> Moist    Damp    Dry Color: Light <u>Medium</u> Dark    (Circle major & underline modifying) Olive    Gray <u>Brown</u> Black    Other _____ Major Constituent: (Circle major & underline modifying) <u>Fine</u> Medium    Coarse    Gravel <u>Sand</u> Silt    Clay _____ Minor Constituent with trace: <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay _____																							
<b>Subsurface sediment characteristics:</b> Density / Consistency <u>Sand / Gravel</u> -    Very Loose    Loose    Medium Dense    Dense    Very Dense <u>Silt / Clay</u> -    Very Soft    Soft <u>Medium Stiff</u> Stiff    Very Stiff    Hard Moisture: Very Wet <u>Wet</u> Moist    Damp    Dry Color: Light    Medium <u>Dark</u> (Circle major & underline modifying) Olive <u>Gray</u> Brown    Black    Other _____ Major Constituent: (Circle major & underline modifying) <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay _____ Minor Constituent with trace: <u>Fine</u> Medium    Coarse    Gravel <u>Sand</u> Silt    Clay _____ Biological: <u>Trace</u> %    Debris: <u>Trace</u> %    Oil Sheen: None    Trace (<5%) _____ %																							
<b>Comments:</b> <u>Biological worms</u> <u>Debris shells</u> _____ _____ _____ _____ _____																							



## Page \_\_\_\_\_ of \_\_\_\_\_

Amin\Field Forms\QSC

SD-PER207-1213

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msdos\QSC

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QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				12-12-13		Boeing PL2		SD-PER 207 R2			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
107 507			127 34 85			25.5	f t	2	0.2 Grab	1006	
Penetration		Unit	Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %			
Depth											
10	c m		CS			yellow sandy					
Surficial sediment characteristics:											
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)						%	
Moisture		Very Wet		(Wet)		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		(Circle major & underline modifying)	
								Gray		Brown Black Other	
Major Constituent		(Fine)		Medium		Coarse		Gravel		(Circle major & underline modifying)	
								Sand		Silt Clay	
Minor Constituent with trace		(Fine)		Medium		Coarse		Gravel		Sand Silt Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		(Soft)		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Very Wet		(Wet)		Moist		Damp		Dry	
Color		Light		Medium		(Dark)		Olive		(Circle major & underline modifying)	
								Gray		Brown Black Other	
Major Constituent		(Fine)		Medium		Coarse		Gravel		(Circle major & underline modifying)	
								Sand		Silt Clay	
Minor Constituent with trace		(Fine)		Medium		Coarse		Gravel		Sand Silt Clay	
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)						%	
Comments:											
Biological: Worms											
Debris: Leaves											



QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				12-12-13		Boeing PL2		SD-PER 207 R3			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
197502			1273484			25.6	f t	3	0.2 Grab	1020	
Penetration		Unit	Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %			
Depth											
10	c m		CJ			pathy clayey					
Surficial sediment characteristics:											
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)						%	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		Gray		Brown	
								Black		Other	
(Circle major & underline modifying)											
Major Constituent											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
(Circle major & underline modifying)											
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff	
										Hard	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		Gray		Brown	
								Black		Other	
(Circle major & underline modifying)											
Major Constituent											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
(Circle major & underline modifying)											
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)						%	
Comments:											
Biological: Worms											
Debris: leaves											
(Grab partially overlapped previous grab location. Pinet missing from collected material)											

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## Page \_\_\_\_ of \_\_\_\_

Amin\Field Forms\QSC

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____														
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number																
				12-12-13		Boeing PL2		SD-PER 208 R2																
Coordinates						Water Depth				Time														
North			East			Depth	Unit	Rep	Gear															
197342			1273796			27.4	f t	2	0.2 Grab	1207														
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2">Penetration</th> <th rowspan="2">Initials</th> <th rowspan="2">Sulfide</th> <th rowspan="2">VOA</th> <th rowspan="2">Weather</th> <th rowspan="2">Fines (%)</th> </tr> <tr> <th>Depth</th> <th>Unit</th> </tr> <tr> <td>10</td> <td>c m</td> <td>CJ</td> <td></td> <td></td> <td>Sandy</td> <td></td> </tr> </table>				Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	Depth	Unit	10	c m	CJ			Sandy		<b>Surficial Wood Estimate:</b> <b>Contact Points</b> _____ X 5 = _____ %				
Penetration		Initials	Sulfide	VOA	Weather						Fines (%)													
Depth	Unit																							
10	c m	CJ			Sandy																			
<b>Surficial sediment characteristics:</b> Biological: <u>Trace</u> %    Debris: <u>Trace</u> %    Oil Sheen: <u>None</u> Trace (<5%) _____ % Moisture: Very Wet <u>Wet</u> Moist    Damp    Dry Color: Light <u>Medium</u> Dark    Olive <u>Gray</u> <u>Brown</u> Black    Other _____ (Circle major & underline modifying) Major Constituent: <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay _____ (Circle major & underline modifying) Minor Constituent with trace: <u>Fine</u> Medium    Coarse    Gravel <u>Sand</u> Silt    Clay _____																								
<b>Subsurface sediment characteristics:</b> Density / Consistency Sand / Gravel -    Very Loose    Loose    Medium Dense    Dense    Very Dense Silt / Clay -    Very Soft <u>Soft</u> Medium Stiff    Stiff    Very Stiff    Hard Moisture: Very Wet <u>Wet</u> Moist    Damp    Dry Color: Light    Medium <u>Dark</u> Olive <u>Gray</u> Brown <u>Black</u> Other _____ (Circle major & underline modifying) Major Constituent: <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay _____ (Circle major & underline modifying) Minor Constituent with trace: <u>Fine</u> Medium    Coarse    Gravel <u>Sand</u> Silt    Clay _____ Biological: <u>Trace</u> %    Debris: <u>Trace</u> %    Oil Sheen: None    Trace (<5%) _____ %																								
<b>Comments:</b> <u>labeled as R1 in GPS file</u> <u>Biological: worms</u> <u>Debris: shells, twigs</u>																								



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Amin\Field Forms\QSC

SD-PER209-1213

## Page \_\_\_\_ of \_\_\_\_

**Surficial sediment characteristics:**

Minor Constituent with trace

**Subsurface sediment characteristics:**

### Density / Consistency

<b><u>Sand / Gravel -</u></b>	Very Loose	Loose	Medium Dense	Dense	Very Dense	
<b><u>Silt / Clay -</u></b>	Very Soft	Soft	Medium Stiff	Stiff	Very Stiff	Hard

**Moisture**  
Very Wet   Wet   Moist   Damp   Dry

Color (Circle major & underline modifying)

**Major Constituent** (Circle major & underline modifying)

Fine Medium Coarse Gravel Sand Silt Clay

Minor Constituent with trace

Biological: Trace %    Debris: Trace %    Oil Sheen: None Trace (<5%) %

Comments:

Comments: Rust color in lower subsurface sedimentary unit  
Dolomite, calc. shells, pebbles  
Dolomite - w/ shells

AMEC Proj. BP2 Perimeter

SD-PER209-1213

QSC Form

Initials: GJN

Date: 12 / 12 / 2013 Time: 1242

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				12-12-13		Boeing PL2		SD-PER 209 R2			
Coordinates						Water Depth		Time			
North			East			Depth	Unit	Rep	Gear		
197316			1273587			17.3	f t	2	0.2 Grab		
Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %				
Depth	Unit										
10	c m	CS			Sandy						
Surficial sediment characteristics:											
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)						%	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		Gray		Brown Black Other	
(Circle major & underline modifying)											
Major Constituent											
Fine		Medium		Coarse		Gravel		Sand		Silt Clay	
(Circle major & underline modifying)											
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		Gray		Brown Black Other	
(Circle major & underline modifying)											
Major Constituent											
Fine		Medium		Coarse		Gravel		Sand		Silt Clay	
(Circle major & underline modifying)											
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt Clay	
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)						%	
Comments:											



QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____													
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number															
				12-12-13		Boeing PL2		SD-PER 209 R3															
Coordinates						Water Depth				Time													
North			East			Depth	Unit	Rep	Gear														
197311			1273582			15.0	f t	3	0.2 Grab	1310													
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2">Penetration</th> <th rowspan="2">Sulfide</th> <th rowspan="2">VOA</th> <th rowspan="2">Weather</th> <th rowspan="2">Fines (%)</th> </tr> <tr> <th>Depth</th> <th>Unit</th> </tr> <tr> <td>10</td> <td>c m</td> <td></td> <td></td> <td>10-15</td> <td></td> </tr> </table>				Penetration		Sulfide	VOA	Weather	Fines (%)	Depth	Unit	10	c m			10-15		<b>Surficial Wood Estimate:</b> <b>Contact Points</b> _____ X 5 = _____ %					
Penetration		Sulfide	VOA	Weather	Fines (%)																		
Depth	Unit																						
10	c m			10-15																			
<b>Surficial sediment characteristics:</b> Biological: <u>Trace</u> %    Debris: <u>Trace</u> %    Oil Sheen: <u>None</u> Trace (<5%) _____ % Moisture: Very Wet <u>Wet</u> Moist    Damp    Dry Color: Light <u>Medium</u> Dark    Olive    Gray <u>Brown</u> Black    Other _____ (Circle major & underline modifying) Major Constituent: <u>Fine</u> Medium    Coarse    Gravel <u>Sand</u> Silt    Clay _____ (Circle major & underline modifying) Minor Constituent with trace: <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay _____																							
<b>Subsurface sediment characteristics:</b> Density / Consistency Sand / Gravel -    Very Loose    Loose <u>Medium Dense</u> Dense    Very Dense Silt / Clay -    Very Soft    Soft    Medium Stiff    Stiff    Very Stiff    Hard Moisture: Very Wet <u>Wet</u> Moist    Damp    Dry Color: Light    Medium <u>Dark</u> Olive <u>Gray</u> Brown    Black    Other _____ (Circle major & underline modifying) Major Constituent: <u>Fine</u> Medium    Coarse    Gravel <u>Sand</u> Silt    Clay _____ (Circle major & underline modifying) Minor Constituent with trace: <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay _____ Biological: <u>Trace</u> %    Debris: <u>Trace</u> %    Oil Sheen: <u>None</u> Trace (<5%) _____ %																							
<b>Comments:</b> <u>Biological: Worms</u> <u>Debris: twigs</u> _____ _____ _____ _____ _____ _____																							

SD-PER210-1213

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				12-13-13		Boeing PL2		SD-PER 210 R1			
Coordinates						Water Depth				Time	
197087 North			East			Depth	Unit	Rep	Gear		
1973948			1273948			26.7	f t	1	0.2 Grab	1121	
Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %				
Depth	Unit										
10	c m	JD			overcast						
Surficial sediment characteristics:											
Biological:		0 %		Debris:		Trace %		Oil Sheen:		None Trace (<5%) %	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray Brown Black Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray Brown Black Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Biological:		Trace %		Debris:		Trace %		Oil Sheen:		None Trace (<5%) %	
Comments:											
leaves, grass				AMEC Proj. BP2 Perimeter							
worms				SD-PER210-1213							
				QSC Form							
				Initials: GSN							
				Date: 12/13/2013 Time: 1121							

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# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	12-13-13	Boeing PL2	SD-PER 210 R3

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
197086	1273953	26.5	f t	3	0.2 Grab	1151

Penetration		Initials	Sulfide	VOA	Weather	Fines (%)
Depth	Unit					
14	c m	OR			overcast	

Surficial Wood Estimate:

Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: trace % Debris: trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

Moisture  
Very Wet Wet Moist Damp Dry

Color  
Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_  
(Circle major & underline modifying)

Major Constituent  
Fine Medium Coarse Gravel Sand Silt Clay  
(Circle major & underline modifying)

Minor Constituent with trace  
Fine Medium Coarse Gravel Sand Silt Clay

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense  
Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

Moisture  
Very Wet Wet Moist Damp Dry

Color  
Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_  
(Circle major & underline modifying)

Major Constituent  
Fine Medium Coarse Gravel Sand Silt Clay  
(Circle major & underline modifying)

Minor Constituent with trace  
Fine Medium Coarse Gravel Sand Silt Clay

Biological: trace % Debris: 2 % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Comments:

Crustaceans  
worms  
glass  
leaves  
wood sticks

SD-PER230-1213

## Page      of

Amin\Field Forms\QSC

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				12-13-13		Boeing PL2		SD-PER 230 R2			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
197083			1273945			28.7	f t	2	0.2 Grab	1225	
Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %				
Depth	Unit										
12	c m	JRS			cloudy						
Surficial sediment characteristics:											
Biological:		0 %		Debris:		Trace %		Oil Sheen:		None Trace (<5%) %	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray Brown Black Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray Brown Black Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Biological:		Trace %		Debris:		0 %		Oil Sheen:		None Trace (<5%) %	
Comments:											
mislabeled in GPS as R1 leaves grass worms											



## Page \_\_\_\_ of \_\_\_\_

**AMEC**, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000

SD-PER211-1213

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				12-15-13		Boeing PL2		SD-PER 211 R1			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
196839			1274296			24.8	f t	1	0.2 Grab	1301	
Penetration		Unit	Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %			
Depth											
10	c m					partly d. only					
Surficial sediment characteristics:											
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)						%	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		Gray		Brown	
								Black		Other	
(Circle major & underline modifying)											
Major Constituent											
Fine		Medium		Coarse		Gravel		Sand		Silt	
								Clay			
(Circle major & underline modifying)											
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt	
								Clay			
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff	
										Hard	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		Gray		Brown	
								Black		Other	
(Circle major & underline modifying)											
Major Constituent											
Fine		Medium		Coarse		Gravel		Sand		Silt	
								Clay			
(Circle major & underline modifying)											
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt	
								Clay			
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)						%	
Comments:											
Biological: worms											
Debris: frags, shell fragments											
AMEC Proj. BP2 Perimeter											
SD-PER211-1213											
QSC Form											
Initials: [Signature]											
Date: 12/16/2013 Time: 1301											

## Page \_\_\_\_ of \_\_\_\_



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SD-PER212-1213

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				12-17-13		Boeing PL2		SD-PER 212 R1			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
196821			1274132			11.8	f t	1	0.2 Grab	1005	
Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %				
Depth	Unit										
10	c m	CT			Cloudy						
Surficial sediment characteristics:											
Biological:		None		%		Debris:		Trace		%	
Oil Sheen:		None		%		Trace (<5%)				%	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		(Circle major & underline modifying)		Olive Gray Brown Black Other Red Brown	
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying)		Gravel Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse				Gravel Sand Silt Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		(Circle major & underline modifying)		Olive Gray Brown Black Other Red brown	
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying)		Gravel Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse				Gravel Sand Silt Clay	
Biological:		None		%		Debris:		Trace		%	
Oil Sheen:		None		%		Trace (<5%)				%	
Comments:											
Biological: Worms											
Debris: Twigs, leaves											
AMEC Proj. BP2 Perimeter											
SD-PER212-1213											
QSC Form											
Initials: GSN											
Date: 12/17/2013 Time: 1005											

## Page \_\_\_\_ of \_\_\_\_

Comments:

Biological: worms  
Yebird small wood



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Amin\Field Forms\QSC

SD-PER213-1213

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**AMEC**, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000

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**AMEC**, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000



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Amin\Field Forms\QSC

SD-PER301-1213

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Penetration		Initials	Sulfide	VOA	Weather	Fines (%)
Depth	Unit					
10	c m	HH			clay	

## Contact Points

X 5 = %

Biological: 0 % Debris: Trace % Oil Sheen: None Trace (<5%) %

Color                      (Circle major & underline modifying)

Light      Medium      Dark              Olive      Gray      Brown      Black      Other

Major Constituent (Circle major & underline modifying)

Minor Constituent with trace

<b><u>Sand / Gravel -</u></b>	Very Loose	Loose	Medium Dense	Dense	Very Dense	
<b><u>Silt / Clay -</u></b>	Very Soft	Soft	Medium Stiff	Stiff	Very Stiff	Hard

Moisture      Wet      Moist      Damp      Dry

**Color**

Light Medium Dark Olive Gray Brown Black Other

(Circle-major & underline modifying)

Major Constituent (Circle major & underline modifying)

Minor Constituent with trace

Fine	Medium	Coarse	Gravel	Sand	Silt	Clay
------	--------	--------	--------	------	------	------

Biological: trace % Debris: trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

Comments:  
Shells, leaves  
worms, grass

AMEC Proj. BP2 Perimeter  
SD-PER301-1213

QSC Form

Initials: GDR

Date: 12/13/2013 Time: 13.00

QUALITATIVE SAMPLE CHARACTERISTICS												Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location			Sample Identification Number				
				12-13-13		Boeing PL2			SD-PER 301 82				
Coordinates						Water Depth						Time	
North			East			Depth	Unit	Rep	Gear				
196478			1274637			25.1	f t	2	0.2 Grab		1313		
Penetration				Sulfide		VOA		Weather		Fines (%)		Surficial Wood Estimate: Contact Points _____ X 5 = _____ %	
Depth	Unit	Initials											
12	c m	JD											
Surficial sediment characteristics:													
Biological:		0		%		Debris:		Trace		%		Oil Sheen: None Trace (<5%)	
Moisture		Very Wet		Wet		Moist		Damp		Dry			
Color		Light		Medium		Dark		Olive		Gray		Brown	
												Black	
												Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand		Silt	
												Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand		Silt	
												Clay	
Subsurface sediment characteristics:													
Density / Consistency													
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense			
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff		Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry			
Color		Light		Medium		Dark		Olive		Gray		Brown	
												Black	
												Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand		Silt	
												Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand		Silt	
												Clay	
Biological:		Trace		%		Debris:		Trace		%		Oil Sheen: None Trace (<5%)	
Comments:													
leaves													
wood debris													
shell debris													



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Amin\Field Forms\QSC

SD-PER302-1213

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number		
				12-16-13		Boeing PL2		SD-PER 302 R1		
Coordinates						Water Depth			Time	
North			East			Depth	Unit	Rep	Gear	
196411			1274776			24.9	f t	1	0.2 Grab	
Penetration			Sulfide	VOA	Weather	Surficial Wood Estimate:				
Depth	Unit	Initials				Contact Points _____ X 5 = _____ %				
10	c m	CT			partly dry					
Surficial sediment characteristics:										
Biological:		Trace		%		Debris:		Trace		
Oil Sheen:		None		Trace (<5%)						
Moisture										
Very Wet		Wet		Moist		Damp		Dry		
Color										
Light		Medium		Dark		Olive		Gray		
								Brown		
								Black		
								Other		
(Circle major & underline modifying)										
Major Constituent										
Fine		Medium		Coarse		Gravel		Sand		
								Silt		
								Clay		
(Circle major & underline modifying)										
Minor Constituent with trace										
Fine		Medium		Coarse		Gravel		Sand		
								Silt		
								Clay		
Subsurface sediment characteristics:										
Density / Consistency										
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		
								Very Dense		
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		
								Very Stiff		
								Hard		
Moisture										
Very Wet		Wet		Moist		Damp		Dry		
Color										
Light		Medium		Dark		Olive		Gray		
								Brown		
								Black		
								Other		
(Circle major & underline modifying)										
Major Constituent										
Fine		Medium		Coarse		Gravel		Sand		
								Silt		
								Clay		
(Circle major & underline modifying)										
Minor Constituent with trace										
Fine		Medium		Coarse		Gravel		Sand		
								Silt		
								Clay		
Biological:		Trace		%		Debris:		Trace		
Oil Sheen:		None		Trace (<5%)						
Comments:										
Depos consists of twigs, shells, plant material										
Biological observations include worms, crabs										
AMEC Proj. BP2 Perimeter										
SD-PER302-1213										
QSC Form										
Initials: <u>ESR</u>										
Date: <u>12/16</u> /2013 Time: <u>801</u>										

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Amin\Field Forms\QSC



QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				12-16-13		Boeing PL2		SD-PER 30283			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
196409			1274776			28.8	f t	3	0.2 Grab	824	
Penetration			Sulfide	VOA	Weather	Surficial Wood Estimate:					
Depth	Unit	Initials				Contact Points					
10	c m	CS			partly down	_____ X 5 = _____ %					
Surficial sediment characteristics:											
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		%		Trace (<5%)				%	
Moisture		Wet		Moist		Damp		Dry			
Color		Medium		Dark		Olive		Gray		Brown Black Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Wet		Moist		Damp		Dry			
Color		Medium		Dark		Olive		Gray		Brown Black Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		%		Trace (<5%)				%	
Comments:											
Biological worms											
Debris leaves, shells, twigs											
A corner of the grab was missing. Crew suspects this soil was lost during a previous grab.											

**SD-PER303-1213**

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				12-16-13		Boeing PL2		SD-PER 303 R1			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
196 261			1274852			15.8	f t	1	0.2 Grab	845	
Penetration			Sulfide	VOA	Weather	Surficial Wood Estimate:					
Depth	Unit	Initials				Contact Points _____ X 5 = _____ %					
10	c m	CS			partly decay						
Surficial sediment characteristics:											
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)						%	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray	
								Brown		Black	
								Other			
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
								Silt		Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
								Silt		Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff	
										Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray	
								Brown		Black	
								Other			
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
								Silt		Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
								Silt		Clay	
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)						%	
Comments:											
Biological worms											
Debris leaves											
AMEC Proj. BP2 Perimeter											
SD-PER303-1213											
QSC Form											
Initials: GSN											
Date: 12/16/2013 Time: 845											

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X 5 = %

Minor Constituent with trace



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**AMEC**, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000

SD-PER304-1213

Sample for station SD-PER304, new sample ID  
assigned to avoid confusion with mislabeled sample

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number		
				12-23-13		Boeing PL2		SD-PER 314 R		
Coordinates						Water Depth				
North			East			Depth	Unit	Rep	Gear	
196194			1275025			22.8	f t	1	0.2 Grab	
Penetration			Sulfide	VOA	Weather	Fines (%)				
Depth	Unit	Initials								
10	c m	CS			Cloudy					
Surficial Wood Estimate:										
Contact Points						_____ X 5 = _____ %				
Surficial sediment characteristics:										
Biological:		Trace		%		Debris:		Trace		
								%		
Oil Sheen:		None		Trace (<5%)						
Moisture		Very Wet		Wet		Moist		Damp		
								Dry		
Color		Light		Medium		Dark		(Circle major & underline modifying)		
								Olive Gray Brown Black Other		
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying)		
								Gravel Sand Silt Clay		
Minor Constituent with trace		Fine		Medium		Coarse				
								Gravel Sand Silt Clay		
Subsurface sediment characteristics:										
Density / Consistency										
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		
								Very Dense		
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		
								Very Stiff		
								Hard		
Moisture		Very Wet		Wet		Moist		Damp		
								Dry		
Color		Light		Medium		Dark		(Circle major & underline modifying)		
								Olive Gray Brown Black Other		
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying)		
								Gravel Sand Silt Clay		
Minor Constituent with trace		Fine		Medium		Coarse				
								Gravel Sand Silt Clay		
Biological:		Trace		%		Debris:		Trace		
								%		
Oil Sheen:		None		Trace (<5%)						
Comments:										
Biologicals were found in GPS as 314 R										
Debris sticks, leaves										
AMEC Proj. BP2 Perimeter										
SD-PER 3141213										
QSC Form										
Initials: CS										
Date: 12/30/2013 Time: 12 48										

## Page \_\_\_\_ of \_\_\_\_

Comments:

Biological: worms  
Debris: leaves



# QUALITATIVE SAMPLE CHARACTERISTICS

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Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	12-20-13	Boeing PL2	SD-PER 314 A3

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
196193	1275028	22.0	f t	3	0.2 Grab	1314

Penetration	Unit	Initials	Sulfide	VOA	Weather	Fines (%)
Depth						
	c m				cloudy	

Surficial Wood Estimate:

Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: Trace % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense  
Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay

Biological: Trace % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Comments:

Biological: worms  
Debris: shell fragments, leaves

**SD-PER305-1213**

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				12-16-13		Boeing PL2		SD-PER 305 R1			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
196039			127096			15.5	f t	1	0.2 Grab	1021	
Penetration			Sulfide	VOA	Weather	Surficial Wood Estimate:					
Depth	Unit	Initials				Contact Points					
	c m				cloudy	_____ X 5 = _____ %					
Surficial sediment characteristics:											
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)						%	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray	
								Brown		Black	
								Other			
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
								Silt		Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
								Silt		Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff	
										Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray	
								Brown		Black	
								Other			
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
								Silt		Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
								Silt		Clay	
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)						%	
Comments:											
Biological: worm											
Debris: plant material											
AMEC Proj. BP2 Perimeter											
SD-PER304-1213											
QSC Form											
Initials: 63 n											
Date: 12 / 16 / 2013 Time: 1021											
Incorrect sample label used on sample jar											

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**AMEC**, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000

**SD-PER306-1213**

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				12-19-13		Boeing PL2		SD-PER 306 R1			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
196013			127 5279			24.9	f t	1	0.2 Grab	1352	
Penetration						Surficial Wood Estimate:					
Depth	Unit	Initials	Sulfide	VOA	Weather	Fines (%)	Contact Points _____ X 5 = _____ %				
10	c m	CS			partly cloudy						
Surficial sediment characteristics:											
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)							
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray	
								Brown		Black	
								Other			
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
								Silt		Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
								Silt		Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff	
										Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray	
								Brown		Black	
								Other			
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
								Silt		Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
								Silt		Clay	
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)							
Comments:											
H2S small											
Biological: worming											
Debris: shell fragments, worm											
AMEC Proj. BP2 Perimeter											
SD-PER306-1213											
QSC Form											
Initials: CSW											
Date: 12/19/2013 Time: 1352											

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QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				12-16-13		Boeing PL2		SD-PER 307 R2			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
145867			1275269			12.7	f t	2	0.2 Grab	1238	
Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %				
Depth	Unit										
12	c m	CS			partly cloudy						
Surficial sediment characteristics:											
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)						%	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		Gray		Brown	
								Black		Other	
Major Constituent											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff	
										Hard	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		Gray		Brown	
								Black		Other	
Major Constituent											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)						%	
Comments:											
Biological - worms, algae											
Debris - twigs, shells											



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**SD-PER308-1213**

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				12-19-13		Boeing PL2		SD-PER 308 R1			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
193 829			1275484			29.7	f t	1	0.2 Grab	828	
Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %				
Depth	Unit										
10	c m	JP			Sunny						
Surficial sediment characteristics:											
Biological:		0 %		Debris:		TRACE %		Oil Sheen:		(None) Trace (<5%) %	
Moisture		Very Wet		(Wet)		Moist		Damp		Dry	
Color		Light		(Medium)		Dark		Olive		Gray (Brown) Black Other	
Major Constituent		(Fine)		Medium		Coarse		Gravel		Sand (Silt) Clay	
Minor Constituent with trace		(Fine)		Medium		Coarse		Gravel		(Sand) Silt Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		(Soft)		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Very Wet		(Wet)		Moist		Damp		Dry	
Color		Light		(Medium)		Dark		Olive		Gray (Brown) Black Other	
Major Constituent		(Fine)		Medium		Coarse		Gravel		Sand (Silt) Clay	
Minor Constituent with trace		(Fine)		Medium		Coarse		Gravel		Sand Silt Clay	
Biological:		0 %		Debris:		TRACE %		Oil Sheen:		(None) Trace (<5%) %	
Comments:											
SAC115, twig 5											
AMEC Proj. BP2 Perimeter											
SD-PER308-1213											
QSC Form											
Initials: G3A											
Date: 12/19/2013 Time: 8:28											

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**Surficial sediment characteristics:**

Minor Constituent with trace

Biological: worms  
 Debris: shell fragments, shells, leaves.



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X 5 = %

Minor Constituent with trace

Fine	Medium	Coarse	Gravel	Sand	Silt	Clay
0.075	0.075 - 0.425	0.425 - 2.0	2.0 - 75	75 - 250	250 - 750	750 - 2500

**SD-PER309-1213**

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**AMEC**, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000



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Penetration		Initials	Sulfide	VOA	Weather	Fines (%)
Depth	Unit					
12	c m	CJ			sunny	

## Contact Points

X 5 = %

Biological: Trace %    Debris: Trace %    Oil Sheen: None Trace (<5%) %

**Color**

Light    Medium    Dark    Olive    Gray    Brown    Black    Other

**Major Constituent**

Fine Medium Coarse Gravel Sand Silt Clay

(Circle major & underline modifying)

Minor Constituent with trace

### Density / Consistency

<b><u>Sand / Gravel -</u></b>	Very Loose	Loose	Medium Dense	Dense	Very Dense	
<b><u>Silt / Clay -</u></b>	Very Soft	Soft	Medium Stiff	Stiff	Very Stiff	Hard

**Moisture**  
Very Wet   Wet   Moist   Damp   Dry

Color

Light Medium Dark Olive Gray Brown Black Other

(Circle major & underline modifying)

**Major Constituent**

Fine	Medium	Coarse	Gravel	Sand	Silt	Clay
------	--------	--------	--------	------	------	------

Minor Constituent with trace

Biological: Trace %    Debris: 7 %    Oil Sheen: None Trace (<5%) %

Biological: worms  
David - wings, leaves.

SD-PER310-1213

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				12-19-13		Boeing PL2		SD-PER 310 R1			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
195592			1275762			23.3	f t		0.2 Grab	1006	
Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %				
Depth	Unit										
	c m				partly sandy						
Surficial sediment characteristics:											
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)						%	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		Gray		Brown	
								Black		Other	
(Circle major & underline modifying)											
Major Constituent											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
(Circle major & underline modifying)											
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff	
										Hard	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		Gray		Brown	
								Black		Other	
(Circle major & underline modifying)											
Major Constituent											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
(Circle major & underline modifying)											
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)						%	
Comments:											
Biological: worms											
Debris: shell fragments, leaves, twigs											
AMEC Proj. BP2 Perimeter											
SD-PER310-1213											
QSC Form											
Initials: Gm											
Date: 12/19/2013 Time: 1006											

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**AMEC**, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000



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Amin\Field Forms\QSC

SD-PER311-1213

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				12-20-13		Boeing PL2		SD-PER 311 R1			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
195407			1275685			20.7	f t	1	0.2 Grab	1006	
Penetration			Sulfide	VOA	Weather	Surficial Wood Estimate:					
Depth	Unit	Initials				Contact Points _____ X 5 = _____ %					
10	c m	CS			cloudy						
Surficial sediment characteristics:											
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)						%	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray	
								Brown		Black	
								Other			
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
								Silt		Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
								Silt		Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff	
										Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray	
								Brown		Black	
								Other			
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
								Silt		Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
								Silt		Clay	
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)						%	
Comments:											
Biological: worms											
Debris: leaves, twigs											
AMEC Proj. BP2 Perimeter											
SD-PER311-1213											
QSC Form											
Initials: GSK											
Date: 12 / 20 / 2013 Time: 1006											

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				12-20-13		Boeing PL2		SD-PER 311 R 2			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
145406			1275681			22.2	f t	2	0.2 Grab	1023	
Penetration			Sulfide	VOA	Weather		Fines (%)				
Depth	Unit	Initials									
10	c m	PS			cloudy						
						<b>Surficial Wood Estimate:</b> <b>Contact Points</b> _____ X 5 = _____ %					
<b>Surficial sediment characteristics:</b> Biological: <u>Trace</u> %    Debris: <u>Trace</u> %    Oil Sheen: <u>None</u> Trace (<5%) _____ % Moisture Very Wet <u>Wet</u> Moist    Damp    Dry Color Light    Medium    Dark    Olive <u>Gray</u> <u>Brown</u> Black    Other _____ (Circle major & underline modifying) Major Constituent <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay (Circle major & underline modifying) Minor Constituent with trace <u>Fine</u> Medium    Coarse    Gravel <u>Sand</u> Silt    Clay											
<b>Subsurface sediment characteristics:</b> Density / Consistency Sand / Gravel -    Very Loose    Loose    Medium Dense    Dense    Very Dense Silt / Clay -    Very Soft <u>Soft</u> Medium Stiff    Stiff    Very Stiff    Hard Moisture Very Wet <u>Wet</u> Moist    Damp    Dry Color Light    Medium <u>Dark</u> Olive <u>Gray</u> Brown    Black    Other _____ (Circle major & underline modifying) Major Constituent <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay (Circle major & underline modifying) Minor Constituent with trace <u>Fine</u> Medium    Coarse    Gravel <u>Sand</u> Silt    Clay Biological: <u>Trace</u> %    Debris: <u>Trace</u> %    Oil Sheen: <u>None</u> Trace (<5%) _____ %											
<b>Comments:</b> <u>Biological: Worms</u> <u>Debris: grass twigs, leaves</u> _____ _____ _____ _____ _____ _____											



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**AMEC**, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000

SD-PER312-1213

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				12-16-13		Boeing PL2		SD-PER 312 R1			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
196223			1274834			10.6	f t	1	0.2 Grab	935	
Penetration						Surficial Wood Estimate:					
Depth	Unit	Initials	Sulfide	VOA	Weather	Fines (%)	Contact Points _____ X 5 = _____ %				
12	c m	CS			partly dry						
Surficial sediment characteristics:											
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)						%	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		(Circle major & underline modifying)	
								Gray		Brown	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
								Silt		Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
								Silt		Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		(Circle major & underline modifying)	
								Gray		Brown	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
								Silt		Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
								Silt		Clay	
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)						%	
Comments:											
Biological: worms											
Debris: shells, twigs											
AMEC Proj. BP2 Perimeter											
SD-PER312-1213											
QSC Form											
Initials: GSN											
Date: 12/13/2013 Time: 935											

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**AMEC**, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000

SD-PER313-1213

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				12-16-13		Boeing PL2		SD-PER 313 R1			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
195485			1275100			9.7	f t	1	0.2 Grab	1150	
Penetration			Sulfide	VOA	Weather	Surficial Wood Estimate:					
Depth	Unit	Initials				Contact Points					
12	c m	CJ			dry	_____ X 5 = _____ %					
Surficial sediment characteristics:											
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)						%	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray Brown	
										Black Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray Brown Black Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)						%	
Comments:											
Biological: worms, algae											
Debris: twigs											
AMEC Proj. BP2 Perimeter											
SD-PER313-1213											
QSC Form											
Initials: 65n											
Date: 12/16/2013 Time: 1150											

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				12-16-13		Boeing PL2		SD-PER 313 R2			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
195983			1275098			10.8	f t	2	0.2 Grab	1200	
Penetration			Sulfide	VOA	Weather		Fines (%)		<b>Surficial Wood Estimate:</b> <b>Contact Points</b> _____ X 5 = _____ %		
Depth	Unit	Initials									
	c m				Judy						
<b>Surficial sediment characteristics:</b> Biological: <u>Trace</u> %    Debris: <u>Trace</u> %    Oil Sheen: <u>None</u> Trace (<5%) _____ % Moisture Very Wet <u>Wet</u> Moist    Damp    Dry Color Light <u>Medium</u> Dark    Olive <u>Gray</u> <u>Brown</u> Black    Other _____ Major Constituent <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay _____ Minor Constituent with trace <u>Fine</u> Medium    Coarse    Gravel <u>Sand</u> Silt    Clay _____											
<b>Subsurface sediment characteristics:</b> Density / Consistency <u>Sand / Gravel</u> -    Very Loose    Loose    Medium Dense    Dense    Very Dense <u>Silt / Clay</u> -    Very Soft <u>Soft</u> Medium Stiff    Stiff    Very Stiff    Hard Moisture Very Wet <u>Wet</u> Moist    Damp    Dry Color Light    Medium <u>Dark</u> Olive <u>Gray</u> Brown    Black    Other _____ Major Constituent <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay _____ Minor Constituent with trace <u>Fine</u> Medium    Coarse    Gravel <u>Sand</u> Silt    Clay _____ Biological: <u>Trace</u> %    Debris: <u>Trace</u> %    Oil Sheen: <u>None</u> Trace (<5%) _____ %											
<b>Comments:</b> <u>Biological: worms, algae</u> <u>Debris: twigs, shells</u> _____ _____ _____ _____ _____ _____											



QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				12-16-13		Boeing PL2		SD-PER 313 R3			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
195989			1275099			10.7	f t	3	0.2 Grab	1211	
Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %				
Depth	Unit										
12	c m				dry						
Surficial sediment characteristics:											
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)						%	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		Gray		Brown	
								Black		Other	
Major Constituent											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff	
										Hard	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		Gray		Brown	
								Black		Other	
Major Constituent											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)						%	
Comments:											
Biological: worms, algae											
Debris: twigs, leaves											

SD-PER401-1213

QUALITATIVE SAMPLE CHARACTERISTICS										Page <u>1</u> of <u>  </u>																
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number																		
				12-15-13		Boeing PL2		SD-PER 401 R1																		
Coordinates						Water Depth				Time																
North			East			Depth	Unit	Rep	Gear																	
194392			1276144			8.2	f t	1	0.2 Grab	817																
						18.2																				
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="2">Penetration</td> <td rowspan="2">Initials</td> <td rowspan="2">Sulfide</td> <td rowspan="2">VOA</td> <td rowspan="2">Weather</td> <td rowspan="2">Fines (%)</td> </tr> <tr> <td>Depth</td> <td>Unit</td> </tr> <tr> <td>10</td> <td>c m</td> <td>GSN</td> <td></td> <td></td> <td>cloudy</td> <td></td> </tr> </table>						Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	Depth	Unit	10	c m	GSN			cloudy		<b>Surficial Wood Estimate:</b> <b>Contact Points</b> _____ X 5 = _____ %				
Penetration		Initials	Sulfide	VOA	Weather	Fines (%)																				
Depth	Unit																									
10	c m	GSN			cloudy																					
<b>Surficial sediment characteristics:</b>																										
Biological:		<u>0</u> %		Debris:		<u>1</u> %		Oil Sheen:		<u>None</u> Trace (<5%) _____ %																
Moisture		<u>Wet</u>		Moist		Damp		Dry																		
Color		<u>Medium</u>		Dark		Olive		Gray		<u>Brown</u> Black Other _____																
Major Constituent		<u>Fine</u>		Medium		Coarse		Gravel		Sand <u>Silt</u> Clay _____																
Minor Constituent with trace		<u>Fine</u>		Medium		Coarse		Gravel		Sand Silt Clay _____																
<b>Subsurface sediment characteristics:</b>																										
<b>Density / Consistency</b>																										
<u>Sand / Gravel -</u>		Very Loose		Loose		Medium Dense		Dense		Very Dense																
<u>Silt / Clay -</u>		Very Soft		<u>Soft</u>		Medium Stiff		Stiff		Very Stiff Hard																
Moisture		<u>Wet</u>		Moist		Damp		Dry																		
Color		<u>Medium</u>		Dark		Olive		<u>Gray</u>		<u>Brown</u> <u>Black</u> Other _____																
Major Constituent		<u>Fine</u>		Medium		Coarse		Gravel		Sand <u>Silt</u> Clay _____																
Minor Constituent with trace		<u>Fine</u>		Medium		Coarse		Gravel		Sand Silt Clay _____																
Biological:		<u>0</u> %		Debris:		<u>1</u> %		Oil Sheen:		<u>None</u> Trace (<5%) _____ %																
<b>Comments:</b>																										
_____ AMEC Proj. BP2 Perimeter _____ SD-PER401-1213 _____ QSC Form _____ Initials: <u>GSN</u> _____ Date: <u>12/15</u> /2013 Time: <u>817</u> _____ _____ _____																										

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Amin\Field Forms\QSC



QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____													
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number															
				12-10-13		Boeing PL2		SD-PER 401 R3															
Coordinates						Water Depth				Time													
North			East			Depth	Unit	Rep	Gear														
194395			1276137			17.2	f t	3	0.2 Grab	911													
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="2">Penetration</td> <td rowspan="2">Initials</td> <td rowspan="2">Sulfide</td> <td rowspan="2">VOA</td> <td rowspan="2">Weather</td> <td rowspan="2">Fines (%)</td> </tr> <tr> <td>Depth</td> <td>Unit</td> </tr> <tr> <td>10</td> <td>cm</td> <td>JB</td> <td></td> <td></td> <td>cloudy</td> <td></td> </tr> </table>				Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	Depth	Unit	10	cm	JB			cloudy		<b>Surficial Wood Estimate:</b> <b>Contact Points</b> _____ X 5 = _____ %			
Penetration		Initials	Sulfide	VOA	Weather						Fines (%)												
Depth	Unit																						
10	cm	JB			cloudy																		
<b>Surficial sediment characteristics:</b> Biological: <u>0</u> %    Debris: <u>Trace</u> %    Oil Sheen: <u>None</u> Trace (<5%) _____ % Moisture Very Wet <u>Wet</u> Moist    Damp    Dry Color Light <u>Medium</u> Dark    Olive    Gray <u>Brown</u> Black    Other _____ (Circle major & underline modifying) Major Constituent <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay _____ (Circle major & underline modifying) Minor Constituent with trace <u>Fine</u> Medium    Coarse    Gravel    Sand    Silt    Clay _____																							
<b>Subsurface sediment characteristics:</b> Density / Consistency <table style="width:100%;"> <tr> <td><u>Sand / Gravel</u> -</td> <td>Very Loose</td> <td>Loose</td> <td>Medium Dense</td> <td>Dense</td> <td>Very Dense</td> </tr> <tr> <td><u>Silt / Clay</u> -</td> <td>Very Soft</td> <td><u>Soft</u></td> <td>Medium Stiff</td> <td>Stiff</td> <td>Very Stiff    Hard</td> </tr> </table> Moisture Very Wet <u>Wet</u> Moist    Damp    Dry Color Light <u>Medium</u> Dark    Olive <u>Gray</u> Brown    Black    Other _____ (Circle major & underline modifying) Major Constituent <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay _____ (Circle major & underline modifying) Minor Constituent with trace Fine    Medium    Coarse    Gravel    Sand    Silt    Clay _____ Biological: <u>0</u> %    Debris: <u>Trace</u> %    Oil Sheen: <u>None</u> Trace (<5%) _____ %											<u>Sand / Gravel</u> -	Very Loose	Loose	Medium Dense	Dense	Very Dense	<u>Silt / Clay</u> -	Very Soft	<u>Soft</u>	Medium Stiff	Stiff	Very Stiff    Hard	
<u>Sand / Gravel</u> -	Very Loose	Loose	Medium Dense	Dense	Very Dense																		
<u>Silt / Clay</u> -	Very Soft	<u>Soft</u>	Medium Stiff	Stiff	Very Stiff    Hard																		
<b>Comments:</b> _____ _____ _____ _____ _____ _____ _____																							

SD-PER402-1213

QUALITATIVE SAMPLE CHARACTERISTICS												Page ____ of ____			
Coordinate Datum				Date (mm/dd/yy)		Project Location			Sample Identification Number			R1			
				12-13-13		Boeing PL2			SD-PER 402			R2			
Coordinates						Water Depth						Time			
North			East			Depth	Unit	Rep	Gear						
194316			1275991			24.3	f	t	2	0.2 Grab		949			
Penetration				Sulfide		VOA		Weather		Fines (%)		Surficial Wood Estimate: 1			
Depth	Unit	Initials										Contact Points _____ X 5 = _____ %			
10	c	m	JB												
Surficial sediment characteristics:															
Biological: 0 %				Debris: Trace %				Oil Sheen: None Trace (<5%) %							
Moisture				Very Wet				Wet				Moist Damp Dry			
Color				Light				Medium				Dark Olive Gray Brown Black Other			
												(Circle major & underline modifying)			
Major Constituent				Fine				Medium				Coarse			
												(Circle major & underline modifying)			
												Gravel Sand Silt Clay			
Minor Constituent with trace				Fine				Medium				Coarse			
												Gravel Sand Silt Clay			
Subsurface sediment characteristics:															
Density / Consistency															
Sand / Gravel -				Very Loose				Loose				Medium Dense Dense Very Dense			
Silt / Clay -				Very Soft				Soft				Medium Stiff Stiff Very Stiff Hard			
Moisture				Very Wet				Wet				Moist Damp Dry			
Color				Light				Medium				Dark Olive Gray Brown Black Other			
												(Circle major & underline modifying)			
Major Constituent				Fine				Medium				Coarse			
												(Circle major & underline modifying)			
												Gravel Sand Silt Clay			
Minor Constituent with trace				Fine				Medium				Coarse			
												Gravel Sand Silt Clay			
Biological: 0 %				Debris: Trace %				Oil Sheen: None Trace (<5%) %							
Comments: - Shell debris, leaf & twigs															
AMEC Proj. BP2 Perimeter															
SD-PER402-1213															
COC Form															
Initials: GSN															
Date: 12/13 /2013 Time: 949															

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**AMEC**, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000



QUALITATIVE SAMPLE CHARACTERISTICS												Page ____ of ____
Coordinate Datum					Date (mm/dd/yy)		Project Location			Sample Identification Number		
					12-10-13		Boeing PL2			SD-PER 402 R3		
Coordinates							Water Depth				Time	
North				East			Depth	Unit	Rep	Gear		
144216				1275988			24.5	f t	3	0.2 Grab	1031	
Penetration				Sulfide	VOA			Surficial Wood Estimate:				
Depth	Unit	Initials				Weather	Fines (%)	Contact Points				
12	c m	JB				cloudy		_____ X 5 = _____ %				
<b>Surficial sediment characteristics:</b> Biological: <u>0</u> %    Debris: <u>Trace</u> %    Oil Sheen: None <u>Trace (&lt;5%)</u> % Moisture: Very Wet <u>Wet</u> Moist    Damp    Dry Color: Light <u>Medium</u> Dark    Olive    Gray <u>Brown</u> Black    Other _____ Major Constituent: <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay Minor Constituent with trace: <u>Fine</u> Medium    Coarse    Gravel <u>Sand</u> Silt    Clay												
<b>Subsurface sediment characteristics:</b> Density / Consistency: Sand / Gravel -    Very Loose    Loose    Medium Dense    Dense    Very Dense Silt / Clay -    Very Soft <u>Soft</u> Medium Stiff    Stiff    Very Stiff    Hard Moisture: Very Wet <u>Wet</u> Moist    Damp    Dry Color: Light <u>Medium</u> Dark    Olive <u>Gray</u> Brown <u>Black</u> Other _____ Major Constituent: <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay Minor Constituent with trace: Fine    Medium    Coarse    Gravel    Sand    Silt    Clay Biological: <u>Trace</u> %    Debris: <u>Trace</u> %    Oil Sheen: None    Trace (<5%) %												
Comments: <u>shell debris</u> _____ _____ _____ _____ _____ _____ _____												

SD-PER403-1213

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				12-10-13		Boeing PL2		SD-PER 403 R1			
Coordinates						Water Depth				Time	
North			1276092 East			Depth	Unit	Rep	Gear		
194318			1270692			25	f t	1	0.2 Grab	1107	
Penetration				Sulfide		VOA		Weather		Fines (%)	
Depth	Unit	Initials									
10	c m	JB									
Surficial Wood Estimate:											
Contact Points											
										X 5 = _____ %	
Surficial sediment characteristics:											
Biological:		0 %		Debris:		Trace %		Oil Sheen:		None Trace (<5%) %	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray Brown Black Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray Brown Black Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Biological:				Debris:		Trace %		Oil Sheen:		None Trace (<5%) %	
Comments:											
Worm											
AMEC Proj. BP2 Perimeter											
SD-PER403-1213											
QSC Form											
Initials: GSN											
Date: 12 / 10 / 2013 Time: 1107											

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**AMEC**, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000



QUALITATIVE SAMPLE CHARACTERISTICS												Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location			Sample Identification Number				
				12-15-13		Boeing PL2			SD-PER 403 R3				
Coordinates						Water Depth				Time			
North			East			Depth	Unit	Rep	Gear				
194321			1276092			245	f t		0.2 Grab	1140			
Penetration				Sulfide	VOA	Weather		Fines (%)		<b>Surficial Wood Estimate:</b> <b>Contact Points</b> _____ X 5 = _____ %			
Depth	Unit	Initials											
10	c m	SB				cloudy							
<b>Surficial sediment characteristics:</b> Biological: <u>Trace</u> %    Debris: <u>Trace</u> %    Oil Sheen: <u>None</u> Trace (<5%) _____ % Moisture    Very Wet <u>Wet</u> Moist    Damp    Dry Color    Light <u>Medium</u> Dark    Olive    Gray <u>Brown</u> Black    Other _____ (Circle major & underline modifying) Major Constituent <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay (Circle major & underline modifying) Minor Constituent with trace <u>Fine</u> Medium    Coarse    Gravel <u>Sand</u> Silt    Clay													
<b>Subsurface sediment characteristics:</b> Density / Consistency Sand / Gravel -    Very Loose    Loose    Medium Dense    Dense    Very Dense Silt / Clay -    Very Soft    Soft <u>Medium Stiff</u> Stiff    Very Stiff    Hard Moisture    Very Wet <u>Wet</u> Moist    Damp    Dry Color    Light <u>Medium</u> Dark    Olive <u>Gray</u> Brown    Black    Other _____ (Circle major & underline modifying) Major Constituent <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay (Circle major & underline modifying) Minor Constituent with trace    Fine    Medium    Coarse    Gravel    Sand    Silt    Clay Biological: <u>Trace</u> %    Debris: <u>Trace</u> %    Oil Sheen: <u>None</u> Trace (<5%) _____ %													
<b>Comments:</b> <u>- Shrimp</u> <u>- Worms</u> _____ _____ _____ _____ _____ _____													

SD-PER404-1213

## Page of

jms\QSC

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				12-11-13		Boeing PL2		SD-PER 484 R2			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
194223			1275944			13.3	f t	2	0.2 Grab	839	
Penetration			Sulfide	VOA	Weather	Surficial Wood Estimate:					
Depth	Unit	Initials				Contact Points					
12	c m	CS			cloudy	_____ X 5 = _____ %					
Surficial sediment characteristics:											
Biological:		0 %		Debris:		TRACE %		Oil Sheen:		None Trace (<5%) %	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray Brown Black Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray Brown Black Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Biological:		Trace %		Debris:		B-S %		Oil Sheen:		None Trace (<5%) %	
Comments:											



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AMEC, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000

SD-PER405-1213

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				12-12-13		Boeing PL2		SD-PER 405 R1			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
194230			1276051			20.2	f t	1	0.2 Grab	804	
Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	<b>Surficial Wood Estimate:</b> <b>Contact Points</b> _____ X 5 = _____ %				
Depth	Unit										
10	c m	CS			partly cloudy						
<b>Surficial sediment characteristics:</b> Biological: <u>trace</u> %    Debris: <u>5</u> %    Oil Sheen: <u>None</u> Trace (<5%) _____ % Moisture: Very Wet <u>Wet</u> Moist    Damp    Dry Color: Light <u>Medium</u> Dark    Olive    Gray <u>Brown</u> Black    Other _____ Major Constituent: <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay _____ Minor Constituent with trace: <u>Fine</u> Medium    Coarse    Gravel <u>Sand</u> Silt    Clay _____											
<b>Subsurface sediment characteristics:</b> Density / Consistency Sand / Gravel -    Very Loose    Loose    Medium Dense    Dense    Very Dense Silt / Clay -    Very Soft <u>Soft</u> Medium Stiff    Stiff    Very Stiff    Hard Moisture: Very Wet <u>Wet</u> Moist    Damp    Dry Color: Light    Medium <u>Dark</u> Olive <u>Gray</u> Brown    Black    Other _____ Major Constituent: <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay _____ Minor Constituent with trace: <u>Fine</u> Medium    Coarse    Gravel <u>Sand</u> Silt    Clay _____ Biological: <u>Trace</u> %    Debris: <u>5</u> %    Oil Sheen:    None    Trace (<5%) _____ %											
<b>Comments:</b> Rag and stick caught in grab. Debris also includes shells, leaves, and twigs. Biological (trace) consisting of worms. <div style="text-align: right;">             AMEC Proj. BP2 Perimeter              SD-PER405-1213              QSC Form              Initials: <u>CSM</u>              Date: <u>12/12</u> /2013 Time: <u>804</u> </div>											

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**AMEC**, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000



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**AMEC**, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000

SD-PER406-1213

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				12-11-13		Boeing PL2		SD-PER 406 R1			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
194227			1276148			18.5	f t	1	0.2 Grab	917	
Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %				
Depth	Unit										
10	c m	CS			5.5						
Surficial sediment characteristics:											
Biological:		0 %		Debris:		Trace %		Oil Sheen:		None Trace (<5%) %	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray Brown Black Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray Brown Black Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Biological:		Trace %		Debris:		0-5 %		Oil Sheen:		None Trace (<5%) %	
Comments:											
AMEC Proj. BP2 Perimeter SD-PER406-1213 QSC Form Initials: GSV Date: 12/11/2013 Time: 917											

## Page \_\_\_\_ of \_\_\_\_

**AMEC**, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000



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**AMEC**, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000

SD-PER426-1213

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum					Date (mm/dd/yy)		Project Location		Sample Identification Number		
					12-11-13		Boeing PL2		SD-PER 426 R1		
Coordinates							Water Depth				Time
North				East			Depth	Unit	Rep	Gear	
194 224				1276 146			21.3	f t	1	0.2 Grab	1005
Penetration				Sulfide	VOA			Surficial Wood Estimate:			
Depth	Unit	Initials				Weather		Fines (%)		Contact Points	
16	c m	JD				f-s				_____ X 5 = _____ %	
Surficial sediment characteristics:											
Biological:		Trace		%		Debris:		TR		%	
Oil Sheen:		None		Trace (<5%)		%					
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray	
								Brown		Black	
								Other			
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
								Silt		Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
								Silt		Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff	
										Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray	
								Brown		Black	
								Other			
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
								Silt		Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
								Silt		Clay	
Biological:		TRACE		%		Debris:		TRACE		%	
Oil Sheen:		None		Trace (<5%)		%					
Comments:											
B. Value											
MEGALIS											
AMEC Proj. BP2 Perimeter											
SD-PER426-1213											
QSC Form											
Initials: GSV											
Date: 12/11/2013 Time: 1005											

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Amin\Field Forms\QSC



## Page \_\_\_\_ of \_\_\_\_

Amin\Field Forms\QSC

**GRAB SAMPLE  
CHAIN OF  
CUSTODY FORMS**

**DECEMBER 2013**

3500 188th St. SW, Suite 601  
Lynnwood, WA 98037  
(425) 921-4000

AMEC Proj. BP2 Perimeter  
COC Number 036

AMEC Proj. BP2 Perimeter COC Number 036		Analysis Containers			Recorded by: <u>GSN</u>
		SMS Metals (As, Cd, Cr, Cu, Pb, Hg, Ag, Zn) TOC, and PCBs (by Aroclor)	Archive		Checked by: <u>JB</u>
AMEC Proj. BP2 Perimeter SD-PER401-1213 COC Form Initials: <u>GSN</u> Date: <u>12/19</u> /2013 Time: <u>817</u>	Date: _____ Time: _____	1			Number of containers 1
AMEC Proj. BP2 Perimeter SD-PER402-1213 QSC Form Initials: <u>GSN</u> Date: <u>12/19</u> /2013 Time: <u>949</u>	Date: _____ Time: _____	1			Number of containers 1
AMEC Proj. BP2 Perimeter SD-PER403-1213 COC Form Initials: <u>GSN</u> Date: <u>12/19</u> /2013 Time: <u>1157</u>	Date: _____ Time: _____	1			Number of containers 1
AMEC Proj. BP2 Perimeter SD-PER201-1213 COC Form Initials: <u>GSN</u> Date: <u>12/19</u> /2013 Time: <u>1327</u>	Date: _____ Time: _____	1			Number of containers 1
AMEC Proj. BP2 Perimeter SD-PER202-1213 COC Form Initials: <u>GSN</u> Date: <u>12/19</u> /2013 Time: <u>1435</u>	Date: _____ Time: _____	1			Number of containers 1
AMEC Proj. BP2 Perimeter SD-PER404-1213 COC Form Initials: <u>GSN</u> Date: <u>12/11</u> /2013 Time: <u>822</u>	Date: _____ Time: _____	1			Number of containers 1
AMEC Proj. BP2 Perimeter SD-PER406-1213 COC Form Initials: <u>GSN</u> Date: <u>12/11</u> /2013 Time: <u>917</u>	Date: _____ Time: _____	1			Number of containers 1

**Laboratory Sample Receipt**

AR! Project Manager—Kelly Bottem  
AMEC Project Manager—Cliff Whitmus (cliff.whitmus@amec.com ph  
425-921-4023)  
AMEC Laboratory Coordinator—Crystal Neirby  
(crystal.neirby@amec.com ph. 206-838-8469)

Sediment samples are unhomogenized. Samples must be thoroughly  
homogenized before analysis.

Relinquished By	Received By
Name: Jennifer Bellamy	Name: Jennifer Mills P
Date: 12/11/13	Date: 12/11/13
Time: 1535	Time: 1535



AMEC

3500 188th St. SW, Suite 601  
Lynnwood, WA 98037  
(425) 921-4000

# CHAIN OF CUSTODY

AMEC Proj. BP2 Perimeter  
COC Number 037

Analysis Containers			
SMS Metals (As, Cd, Cr, Cu, Pb, Hg, Ag, Zn)	TOC, and PCBs (by Aroclor)	Archive	

Recorded by: GSM  
Checked by: JB

AMEC Proj. BP2 Perimeter SD-PER426-1213 COC Form Initials: <u>GSM</u> Date: <u>12/11</u> /2013 Time: <u>1005</u>	Date:				Number of containers
	Time:				
AMEC Proj. BP2 Perimeter SD-PER203-1213 COC Form Initials: <u>GSM</u> Date: <u>12/11</u> /2013 Time: <u>1156</u>	Date:				Number of containers
	Time:				
AMEC Proj. BP2 Perimeter SD-PER204-1213 COC Form Initials: <u>GSM</u> Date: <u>12/11</u> /2013 Time: <u>1238</u>	Date:				Number of containers
	Time:				
AMEC Proj. BP2 Perimeter SD-PER205-1213 COC Form Initials: <u>GSM</u> Date: <u>12/11</u> /2013 Time: <u>1334</u>	Date:				Number of containers
	Time:				
Place Sample ID Label Here or Write ID Number Here <div></div>	Date:				Number of containers
	Time:				
Place Sample ID Label Here or Write ID Number Here <div></div>	Date:				Number of containers
	Time:				
Place Sample ID Label Here or Write ID Number Here <div></div>	Date:				Number of containers
	Time:				

Laboratory Sample Receipt
ARI Project Manager—Kelly Bottem AMEC Project Manager—Cliff Whitmus (cliff.whitmus@amec.com ph 425-921-4023) AMEC Laboratory Coordinator—Crystal Neirby (crystal.neirby@amec.com ph. 206-838-8469)
Sediment samples are unhomogenized. Samples must be thoroughly homogenized before analysis.

Relinquished By	Received By
Name: <u>Jennifer Bellans</u>	Name: <u>Jennifer Milbray</u>
Date: <u>12/11/13</u>	Date: <u>12/11/13</u>
Time: <u>1535</u>	Time: <u>1535</u>



**AMEC**

3500 188th St. SW, Suite 601  
Lynnwood, WA 98037  
(425) 921-4000

# CHAIN OF CUSTODY

AMEC Proj. BP2 Perimeter  
COC Number 038

## Analysis Containers

Recorded by: GSN

Checked by: \_\_\_\_\_

SMS Metals (As, Cd, Cr, Cu, Pb, Hg, Ag, Zn) TOC, and PCBs (by Aroclor)	Archive	
---	---------	--

AMEC Proj. BP2 Perimeter  
SD-PER405-1213

COC Form

Initials: GSN

Date: 12/12/2013 Time: 8:04

Date:				Number of containers
Time:	1			1

AMEC Proj. BP2 Perimeter  
SD-PER206-1213

COC Form

Initials: GSN

Date: 12/12/2013 Time: 9:25

Date:				Number of containers
Time:	1			1

AMEC Proj. BP2 Perimeter  
SD-PER207-1213

COC Form

Initials: GSN

Date: 12/12/2013 Time: 9:52

Date:				Number of containers
Time:	1			1

AMEC Proj. BP2 Perimeter  
SD-PER208-1213

COC Form

Initials: GSN

Date: 12/12/2013 Time: 11:55

Date:				Number of containers
Time:	1			1

AMEC Proj. BP2 Perimeter  
SD-PER209-1213

COC Form

Initials: GSN

Date: 12/12/2013 Time: 12:42

Date:				Number of containers
Time:	1			1

AMEC Proj. BP2 Perimeter  
SD-PER101-1213

COC Form

Initials: GSN

Date: 12/13/2013 Time: 7:55

Date:				Number of containers
Time:	1			1

AMEC Proj. BP2 Perimeter

SD-PER106-1213

COC Form

Initials: GSN

Date: 12/13/2013 Time: 8:50

Date:				Number of containers
Time:	1			1

ARI Project Manager—Kelly Bottem  
AMEC Project Manager—Cliff Whitmus (cliff.whitmus@amec.com ph 425-921-4023)  
AMEC Laboratory Coordinator—Crystal Neirby  
(crystal.neirby@amec.com ph. 206-838-8469)

Sediment samples are unhomogenized. Samples must be thoroughly homogenized before analysis.

## Relinquished By

Name: Jennifer Bellamy

Date: 12/13/13

Time: 15:00

## Received By

Name: Tyler Shuster

Date: 2-13-13

Time: 15:00

**AMEC**

3500 188th St. SW, Suite 601  
Lynnwood, WA 98037  
(425) 921-4000

**CHAIN OF CUSTODY**

AMEC Proj. BP2 Perimeter  
COC Number 039

Analysis Containers		
SMS Metals (As, Cd, Cr, Cu, Pb, Hg, Ag, Zn)	TOC, and PCBs (by Aroclor)	Archive

Recorded by: GSN

Checked by: \_\_\_\_\_

AMEC Proj. BP2 Perimeter  
SD-PER126-1213  
COC Form  
Initials: GSN  
Date: 12/13 /2013 Time: 931

Date:				Number of containers
Time:				

AMEC Proj. BP2 Perimeter  
SD-PER210-1213  
COC Form  
Initials: GSN  
Date: 12/13 /2013 Time: 1121

Date:				Number of containers
Time:				

AMEC Proj. BP2 Perimeter  
SD-PER230-1213  
COC Form  
Initials: GSN  
Date: 12/13 /2013 Time: 1207

Date:				Number of containers
Time:				

AMEC Proj. BP2 Perimeter  
SD-PER301-1213  
COC Form  
Initials: GSN  
Date: 12/13 /2013 Time: 1301

Date:				Number of containers
Time:				

Place Sample ID Label Here  
or Write ID Number Here

Date:				Number of containers
Time:				

Place Sample ID Label Here  
or Write ID Number Here

Date:				Number of containers
Time:				

Place Sample ID Label Here  
or Write ID Number Here

Date:				Number of containers
Time:				

**Laboratory Sample Receipt**

ARI Project Manager—Kelly Bottem  
AMEC Project Manager—Cliff Whitmus (cliff.whitmus@amec.com ph 425-921-4023)  
AMEC Laboratory Coordinator—Crystal Neirby (crystal.neirby@amec.com ph. 206-838-8469)

Sediment samples are unhomogenized. Samples must be thoroughly homogenized before analysis.

Relinquished By	Received By
Name: <u>Jennifer Bellam</u>	Name: <u>Taylor Streeter</u>
Date: <u>12/13/13</u>	Date: <u>12-13-13</u>
Time: <u>1500</u>	Time: <u>1500</u>



**AMEC**

3500 188th St. SW, Suite 601  
Lynnwood, WA 98037  
(425) 921-4000

# CHAIN OF CUSTODY

AMEC Proj. BP2 Perimeter  
COC Number 040

## Analysis Containers

Recorded by: SM

Checked by: \_\_\_\_\_

AMEC Proj. BP2 Perimeter  
SD-PER302-1213

COC Form

Initials: SM

Date: 12/16 /2013 Time: 807

AMEC Proj. BP2 Perimeter  
SD-PER303-1213

COC Form

Initials: SM

Date: 12/16 /2013 Time: 845

AMEC Proj. BP2 Perimeter  
SD-PER312-1213

COC Form

Initials: SM

Date: 12/16 /2013 Time: 935

AMEC Proj. BP2 Perimeter  
SD-PER304-1213

COC Form

Initials: SM

Date: 12/16 /2013 Time: 1021

**SD-PER305-1213**

AMEC Proj. BP2 Perimeter  
SD-PER313-1213

COC Form

Initials: SM

Date: 12/16 /2013 Time: 1150

AMEC Proj. BP2 Perimeter  
SD-PER307-1213

COC Form

Initials: SM

Date: 12/16 /2013 Time: 1225

AMEC Proj. BP2 Perimeter  
SD-PER327-1213

COC Form

Initials: SM

Date: 12/16 /2013 Time: 1303

Date:	SMS Metals (As, Cd, Cr, Cu, Pb, Hg, Ag, Zn)	TOC, and PCBs (by Aroclor)	Archive	Number of containers
Time:	1			1
Date:				Number of containers
Time:	1			1
Date:				Number of containers
Time:	1			1
Date:				Number of containers
Time:	1			1
Date:				Number of containers
Time:	1			1
Date:				Number of containers
Time:	1			1
Date:				Number of containers
Time:	1			1

### Laboratory Sample Receipt

ARI Project Manager—Kelly Bottem  
AMEC Project Manager—Cliff Whitmus (cliff.whitmus@amec.com ph 425-921-4023)  
AMEC Laboratory Coordinator—Crystal Neirby (crystal.neirby@amec.com ph. 206-838-8469)

Sediment samples are unhomogenized. Samples must be thoroughly homogenized before analysis.

### Relinquished By

Name: Cliff Whitmus

Date: 12-17-13

Time: 1512

### Received By

Name: SM

Date: 12/17/15

Time: 1512

**AMEC**

3500 188th St. SW, Suite 601  
Lynnwood, WA 98037  
(425) 921-4000

AMEC Proj. BP2 Perimeter  
COC Number 041

# CHAIN OF CUSTODY

		Analysis Containers				
		SMS Metals (As, Cd, Cr, Cu, Pb, Hg, Ag, Zn), TOC, and PCBs (by Aroclor)	Archive			
AMEC Proj. BP2 Perimeter SD-PER213-1213 COC Form Initials: <u>GSN</u> Date: <u>12/17</u> /2013 Time: <u>930</u>		Date:				Number of containers
		Time:				
AMEC Proj. BP2 Perimeter SD-PER212-1213 COC Form Initials: <u>AGB</u> Date: <u>12/17</u> /2013 Time: <u>1005</u>		Date:				Number of containers
		Time:				
AMEC Proj. BP2 Perimeter SD-PER103-1213 COC Form Initials: <u>GSN</u> Date: <u>10/17</u> /2013 Time: <u>1055</u>		Date:				Number of containers
		Time:				
AMEC Proj. BP2 Perimeter SD-PER102-1213 COC Form Initials: <u>GSN</u> Date: <u>12/17</u> /2013 Time: <u>1202</u>		Date:				Number of containers
		Time:				
AMEC Proj. BP2 Perimeter SD-PER104-1213 COC Form Initials: <u>GSN</u> Date: <u>12/17</u> /2013 Time: <u>1258</u>		Date:				Number of containers
		Time:				
Place Sample ID Label Here or Write ID Number Here  <div style="border: 1px solid black; height: 20px; width: 100%;"></div>		Date:				Number of containers
		Time:				
Place Sample ID Label Here or Write ID Number Here  <div style="border: 1px solid black; height: 20px; width: 100%;"></div>		Date:				Number of containers
		Time:				

Recorded by: SSM

Checked by: \_\_\_\_\_

## Laboratory Sample Receipt

ARI Project Manager—Kelly Bottem  
AMEC Project Manager—Cliff Whitmus (cliff.whitmus@amec.com ph 425-921-4023)  
AMEC Laboratory Coordinator—Crystal Neirby  
(crystal.neirby@amec.com ph. 206-838-8469)

Sediment samples are unhomogenized. Samples must be thoroughly homogenized before analysis.

## Relinquished By

Name: SSM

Date: 12-17-13

Time: 1512

## Received By

Name: AGB

Date: 12/17/13

Time: 1512



**AMEC**

3500 188th St. SW, Suite 601  
Lynnwood, WA 98037  
(425) 921-4000

# CHAIN OF CUSTODY

AMEC Proj. BP2 Perimeter  
COC Number 353

## Analysis Containers

SMS Metals (As, Cd,  
Cr, Cu, Pb, Hg, Ag, Zn)  
TOC, and  
PCBs (by Aroclor)

Archive

Recorded by: GSM

Checked by: \_\_\_\_\_

AMEC Proj. BP2 Perimeter  
SD-PER308-1213  
COC Form  
Initials: GSM  
Date: 12/19/2013 Time: 8:28

Date:					Number of containers
Time:					

AMEC Proj. BP2 Perimeter  
SD-PER309-1213  
COC Form  
Initials: GSM  
Date: 12/19/2013 Time: 9:22

Date:					Number of containers
Time:					

AMEC Proj. BP2 Perimeter  
SD-PER310-1213  
COC Form  
Initials: GSM  
Date: 12/19/2013 Time: 10:06

Date:					Number of containers
Time:					

AMEC Proj. BP2 Perimeter  
SD-PER105-1213  
COC Form  
Initials: GSM  
Date: 12/19/2013 Time: 12:21

Date:					Number of containers
Time:					

AMEC Proj. BP2 Perimeter  
SD-PER211-1213  
COC Form  
Initials: GSM  
Date: 12/19/2013 Time: 13:01

Date:					Number of containers
Time:					

AMEC Proj. BP2 Perimeter  
SD-PER306-1213  
COC Form  
Initials: GSM  
Date: 12/19/2013 Time: 13:52

Date:					Number of containers
Time:					

Place Sample ID Label Here  
or Write ID Number Here

Date:					Number of containers
Time:					

### Laboratory Sample Receipt

ARI Project Manager—Kelly Bottem  
AMEC Project Manager—Cliff Whitmus (cliff.whitmus@amec.com ph 425-921-4023)  
AMEC Laboratory Coordinator—Crystal Neirby  
(crystal.neirby@amec.com ph 206-838-8469)

Sediment samples are unhomogenized. Samples must be thoroughly homogenized before analysis.

### Relinquished By

Name: Jessica Youngblood  
Date: 12/20/13  
Time: 15:35

### Received By

Name: A. Volgarisen  
Date: 12/20/13  
Time: 15:35

**AMEC**

3500 188th St. SW, Suite 601  
Lynnwood, WA 98037  
(425) 921-4000

**CHAIN OF CUSTODY**

AMEC Proj: BP2 Perimeter  
COC Number 031

**Analysis Containers**

Recorded by: 65m

Checked by: \_\_\_\_\_

SMS Metals (As, Cd,  
Cr, Cu, Pb, Hg, Ag, Zn)  
TOC, and  
PCBs (by Aroclor)

Archive

AMEC Proj: BP2 Perimeter  
SD-PER311-1213  
COC Form  
Initials: 65m  
Date: 12/20/2013 Time: 1008

Date:

Time:

Number of containers

~~AMEC Proj: BP2 Perimeter  
SD-PER305-1213  
COC Form  
Initials: 65m  
Date: 12/20/2013 Time: 57~~

Date:

Time:

Number of containers

AMEC Proj: BP2 Perimeter  
SD-PER314-1213  
COC Form **SD-PER304-1213**  
Initials: 65m  
Date: 12/20/2013 Time: 1248

Date:

Time:

Number of containers

Place Sample ID Label Here  
or Write ID Number Here

Date:

Time:

Number of containers

Place Sample ID Label Here  
or Write ID Number Here

Date:

Time:

Number of containers

Place Sample ID Label Here  
or Write ID Number Here

Date:

Time:

Number of containers

Place Sample ID Label Here  
or Write ID Number Here

Date:

Time:

Number of containers

**Laboratory Sample Receipt**

ARI Project Manager—Kelly Bottem  
AMEC Project Manager—Cliff Whitmus (cliff.whitmus@amec.com ph  
425-921-4023)  
AMEC Laboratory Coordinator—Crystal Neirby  
(crystal.neirby@amec.com ph. 206-838-8469)

Sediment samples are unhomogenized. Samples must be thoroughly  
homogenized before analysis

**Relinquished By**
**Received By**

Name: Jessica Youngblood

Name: A. Volgarden

Date: 12/20/13

Date: 12/20/13

Time: 1535

Time: 1535

# GPS CHECK FORMS

DECEMBER 2013



# AMEC GPS Check Form

Date: 12-10-13

Project: Perimeter Monitoring

Recorder: CSN

## Calculated Location of Reference Station

Coordinate Datum: WA State Plane, NAD 83

Zone: North Zone

Reference Station Name: Check Point 1

Northing 196376

Easting 1274699

Units of Measure: Survey Feet

Reference Station Description: Piling at downstream end of the South Park Marina at the  
end of the channel side dock.

---

### Start of Day

Time: 7:59

Northing 196375.95

Coordinate Datum Setup Confirmed: yes

Easting 1274699.25

Comments: \_\_\_\_\_

---

### End of Day

Time: 1558

Northing 196371

Coordinate Datum Setup Confirmed: y

Easting 1274697

Comments: \_\_\_\_\_



# AMEC GPS Check Form

Date: 12/11/13

Project: Boeing Perimeter monitoring

Recorder: JB

## Calculated Location of Reference Station

Coordinate Datum: WA State Plane, NAD 83

Zone: North Zone

Reference Station Name: Check Point 1

Northing 196376

Easting 1274699

Units of Measure: Survey Feet

Reference Station Description: Piling at downstream end of the South Park Marina at the  
end of the channel side dock.

## Start of Day

Time: 8:01

Northing 196376

Coordinate Datum Setup Confirmed: yes

Easting 1274698

Comments: \_\_\_\_\_

## End of Day

Time: 2:57

Northing 196378

Coordinate Datum Setup Confirmed: yes

Easting 1274697

Comments: \_\_\_\_\_

# AMEC GPS Check Form

Date: 12/12/13

Project: Boring perimeter monitoring

Recorder: JB

## Calculated Location of Reference Station

Coordinate Datum: WA State Plane, NAD 83

Zone: North Zone

Reference Station Name: Check Point 1

Northing 196376

Easting 1274699

Units of Measure: Survey Feet

Reference Station Description: Piling at downstream end of the South Park Marina at the  
end of the channel side dock.

## Start of Day

Time: 7:52

Northing 196376

Coordinate Datum Setup Confirmed: yes

Easting 1274700

Comments: \_\_\_\_\_

## End of Day

Time: 2:44

Northing 196375

Coordinate Datum Setup Confirmed: yes

Easting 1274699

Comments: \_\_\_\_\_

# AMEC GPS Check Form

Date: 12/13/13

Project: Boeing River monitoring

Recorder: JB

## Calculated Location of Reference Station

Coordinate Datum: WA State Plane, NAD 83

Zone: North Zone

Reference Station Name: Check Point 1

Northing 196376

Easting 1274699

Units of Measure: Survey Feet

Reference Station Description: Piling at downstream end of the South Park Marina at the  
end of the channel side dock.

## Start of Day

Time: 7:40

Northing 196376

Coordinate Datum Setup Confirmed: yes

Easting 1274700

Comments: \_\_\_\_\_

## End of Day

Time: 2:20

Northing 196376

Coordinate Datum Setup Confirmed: yes

Easting 1274699

Comments: \_\_\_\_\_

# AMEC GPS Check Form

Date: 12-16-13

Project: Boring Perimeter Monitoring

Recorder: GSR

## Calculated Location of Reference Station

Coordinate Datum: WA State Plane, NAD 83

Zone: North Zone

Reference Station Name: Check Point 1

Northing 196376

Easting 1274699

Units of Measure: Survey Feet

Reference Station Description: Piling at downstream end of the South Park Marina at the  
end of the channel side dock.

---

### Start of Day

Time: 7 45

Northing 196376

Coordinate Datum Setup Confirmed: X

Easting 1274700

Comments: \_\_\_\_\_

---

### End of Day

Time: 1352

Northing 196378

Coordinate Datum Setup Confirmed: 7

Easting 1274699

Comments: \_\_\_\_\_



# AMEC GPS Check Form

Date: 12-17-13

Project: \_\_\_\_\_

Recorder: CSM

## Calculated Location of Reference Station

Coordinate Datum: WA State Plane, NAD 83

Zone: North Zone

Reference Station Name: Check Point 1

Northing 196376

Easting 1274699

Units of Measure: Survey Feet

Reference Station Description: Piling at downstream end of the South Park Marina at the  
end of the channel side dock.

---

### Start of Day

Time: 8:08

Northing 196377

Coordinate Datum Setup Confirmed: X

Easting 1274699

Comments: \_\_\_\_\_

---

### End of Day

Time: 1437

Northing 196376

Coordinate Datum Setup Confirmed: X

Easting 1274700

Comments: \_\_\_\_\_

# AMEC GPS Check Form

Date: 12-18-13

Project: Boeing Perimeter Monitoring

Recorder: GSN

## Calculated Location of Reference Station

Coordinate Datum: WA State Plane, NAD 83

Zone: North Zone

Reference Station Name: Check Point 1

Northing 196376

Easting 1274699

Units of Measure: Survey Feet

Reference Station Description: Piling at downstream end of the South Park Marina at the  
end of the channel side dock.

---

### Start of Day

Time: 832

Northing 196375

Coordinate Datum Setup Confirmed: Y

Easting 1274699

Comments: \_\_\_\_\_

---

### End of Day

Time: \_\_\_\_\_

Northing \_\_\_\_\_

Coordinate Datum Setup Confirmed: \_\_\_\_\_

Easting \_\_\_\_\_

Comments: No samples collected on this day.

# AMEC GPS Check Form

Date: 12/19/13

Project: Boeing Perimeter monitoring

Recorder: JB

## Calculated Location of Reference Station

Coordinate Datum: WA State Plane, NAD 83

Zone: North Zone

Reference Station Name: Check Point 1

Northing 196376

Easting 1274699

Units of Measure: Survey Feet

Reference Station Description: Piling at downstream end of the South Park Marina at the  
end of the channel side dock.

---

### Start of Day

Time: 8:07

Northing 196377

Coordinate Datum Setup Confirmed: yes

Easting 1274699

Comments: \_\_\_\_\_

---

### End of Day

Time: 15:06

Northing 196375

Coordinate Datum Setup Confirmed: yes

Easting 1274699

Comments: \_\_\_\_\_

# AMEC GPS Check Form

Date: 9-20-13

Project: Perimeter Monitoring

Recorder: CSM

## Calculated Location of Reference Station

Coordinate Datum: WA State Plane, NAD 83

Zone: North Zone

Reference Station Name: Check Point 1

Northing 196376

Easting 1274699

Units of Measure: Survey Feet

Reference Station Description: Piling at downstream end of the South Park Marina at the  
end of the channel side dock.

## Start of Day

Time: 954

Northing 196373

Coordinate Datum Setup Confirmed: Y

Easting 1274699

Comments: \_\_\_\_\_

## End of Day

Time: 1416

Northing 196376

Coordinate Datum Setup Confirmed: Y

Easting 1274700

Comments: \_\_\_\_\_



POST-  
CONSTRUCTION  
GRAB SAMPLE  
QUALITATIVE  
CHARACTERISTICS  
FORMS

MARCH 2014

SD-PER101-0314

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				3-12-14		Boeing PL2		SD-PER 101			
Coordinates						Water Depth				Time	
North		1271442 East				Depth	Unit	Rep	Gear		
199739		1271443				21.1	f t	1	0.2 Grab	1108	
Penetration			Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate:				
Depth	Unit	Initials					Contact Points				
12	c m	GSM			Sunny		_____ X 5 = _____ %				
Surficial sediment characteristics:											
Biological:		0 %		Debris:		Trace %		Oil Sheen:		None Trace (<5%) %	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		(Circle major & underline modifying)		Olive Gray Brown Black Other	
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying)		Gravel Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse				Gravel Sand Silt Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		(Circle major & underline modifying)		Olive Gray Brown Black Other	
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying)		Gravel Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse				Gravel Sand Silt Clay	
Biological:		0 %		Debris:		0 %		Oil Sheen:		None Trace (<5%) %	
Comments:											
Debris: leaves				AMEC Proj. BP2 Perimeter							
				SD-PER101-0314 Initials: GSM							
				QSC Form							
				Date: 3/12/2014 Time: 1108							

## Page of

Amin\Field Forms\QSC



# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	3-12-14	Boeing PL2	SD-PER 101

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
199739	1271448	20.9	f t	3	0.2 Grab	1131

Penetration		Sulfide	VOA	Weather	Fines (%)
Depth	Unit	Initials			
12	c m	63M		sunny	

Surficial Wood Estimate:

Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: 0 % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

Moisture  
Very Wet Wet Moist Damp Dry

Color  
Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

Major Constituent  
Fine Medium Coarse Gravel Sand Silt Clay

Minor Constituent with trace  
Fine Medium Coarse Gravel Sand Silt Clay

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense  
Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

Moisture  
Very Wet Wet Moist Damp Dry

Color  
Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

Major Constituent  
Fine Medium Coarse Gravel Sand Silt Clay

Minor Constituent with trace  
Fine Medium Coarse Gravel Sand Silt Clay

Biological: 0 % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Comments:

Debris: leaves.

SD-PER102-0314

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				3-13-14		Boeing PL2		SD-PER 102			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
199 652			127,399			28.4	f t	1	0.2 Grab	1329	
Penetration			Sulfide	VOA	Weather	Surficial Wood Estimate:					
Depth	Unit	Initials				Contact Points _____ X 5 = _____ %					
14	cm	GR			part cloudy						
Surficial sediment characteristics:											
Biological:		0 %		Debris:		Trace %		Oil Sheen:		None Trace (<5%) %	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		(Circle major & underline modifying)		Olive Gray Brown Black Other	
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying)		Gravel Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		(Circle major & underline modifying)		Olive Gray Brown Black Other	
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying)		Gravel Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Biological:		0 %		Debris:		Trace %		Oil Sheen:		None Trace (<5%) %	
Comments: 1325 did not close.											
Debris: leaves, twigs											
AMEC Proj. BP2 Perimeter											
SD-PER102-0314 Initials: GR											
QSC Form											
Date: 3/13/2014 Time: 1329											

## Page of

**AMEC**, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000



## Page \_\_\_\_ of \_\_\_\_

Comments:  
Debris: twigs, roots, leaves.

SD-PER103-0314

# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum		Date (mm/dd/yy)	Project Location	Sample Identification Number
		3-12-14	Boeing PL2	SD-PER 103
Coordinates			Water Depth	Time
North	East		Depth	Unit
199 660	127 1503		f	t
			Rep	Gear
			1	0.2 Grab

Penetration	Unit	Initials	Sulfide	VOA	Weather	Fines (%)
10	c m	65m			sunny	

## Surficial Wood Estimate:

### Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: 0 % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense

Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

Biological: 0 % Debris: 0 % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Comments:

current too strong to get water depth  
Debris: leaves

AMEC Proj. BP2 Perimeter

SD-PER103-0314 Initials: 65m

QSC Form

Date: 3 / 12 / 2014 Time: 1222

# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum		Date (mm/dd/yy)	Project Location		Sample Identification Number	
		3-12-14	Boeing PL2		SD-PER 103	
Coordinates			Water Depth			Time
North		East		Depth	Unit	Rep
199664		1271502		23.6	f t	2
						Gear
						0.2 Grab
						1234

Penetration		Initials	Sulfide	VOA	Weather	Fines (%)
Depth	Unit					
12	c m	Gsn			Sunny	

## Surficial Wood Estimate:

### Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: 0 % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense

Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

Biological: 0 % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Comments:

Debris: leaves



# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	3-12-14	Boeing PL2	SD-PER 103

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
199661	1271502	23.5	f t	3	0.2 Grab	1245

Penetration	Depth	Unit	Initials	Sulfide	VOA	Weather	Fines (%)
	10	c m	65m			Sunny	

## Surficial Wood Estimate:

### Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: 0 % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

Moisture  
Very Wet Wet Moist Damp Dry

Color  
Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

Major Constituent  
Fine Medium Coarse Gravel Sand Silt Clay

Minor Constituent with trace  
Fine Medium Coarse Gravel Sand Silt Clay

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense  
Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

Moisture  
Very Wet Wet Moist Damp Dry

Color  
Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

Major Constituent  
Fine Medium Coarse Gravel Sand Silt Clay

Minor Constituent with trace  
Fine Medium Coarse Gravel Sand Silt Clay

Biological: 0 % Debris: S % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

## Comments:

Debris: leaves, twigs

SD-PER104-0314

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				3-12-14		Boeing PL2		SD-PER 104			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
199574			1271349			26.8	f t	1	0.2 Grab	1303	
Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %				
Depth	Unit										
12	c m	SSR			sunny						
Surficial sediment characteristics:											
Biological:		0 %		Debris:		Trace %		Oil Sheen:		(None) Trace (<5%) %	
Moisture		Very Wet		(Wet)		Moist		Damp		Dry	
Color		Light		(Medium)		Dark		(Circle major & underline modifying)		Olive Gray (Brown) Black Other	
Major Constituent		(Fine)		Medium		Coarse		(Circle major & underline modifying)		Gravel Sand (Silt) Clay	
Minor Constituent with trace		(Fine)		Medium		Coarse				Gravel Sand Silt Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		(Soft)		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Very Wet		(Wet)		Moist		Damp		Dry	
Color		Light		Medium		(Dark)		(Circle major & underline modifying)		Olive (Gray) Brown Black Other	
Major Constituent		(Fine)		Medium		Coarse		(Circle major & underline modifying)		Gravel Sand (Silt) Clay	
Minor Constituent with trace		(Fine)		Medium		Coarse				Gravel (Sand) Silt Clay	
Biological:		Trace %		Debris:		Trace %		Oil Sheen:		(None) Trace (<5%) %	
Comments:											
Biological: worms											
Debris: leaves, twigs											
AMEC Proj. BP2 Perimeter											
SD-PER104-0314 Initials: SSR											
QSC Form											
Date: 3 / 12 / 2014 Time: 1303											

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**AMEC**, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000



QUALITATIVE SAMPLE CHARACTERISTICS												Page ____ of ____	
Coordinate Datum						Date (mm/dd/yy)		Project Location		Sample Identification Number			
						3-12-14		Boeing PL2		SD-PER 154			
Coordinates								Water Depth				Time	
North				1271356 East				Depth	Unit	Rep	Gear		
149569				1271350				26.0	f t	3	0.2 Grab	1328	
Penetration				Sulfide	VOA	Weather		Fines (%)		Surficial Wood Estimate:			
Depth	Unit	Initials								Contact Points			
12	c m	GM				Sunny				_____ X 5 = _____ %			
Surficial sediment characteristics:													
Biological:		0 %		Debris:		Trace %		Oil Sheen:		None		Trace (<5%) _____ %	
Moisture		Very Wet		Wet		Moist		Damp		Dry			
Color		Light		Medium		Dark		Olive		Gray		Brown	
												Black Other _____	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand		Silt	
												Clay _____	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand		Silt	
												Clay _____	
Subsurface sediment characteristics:													
Density / Consistency													
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense			
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard			
Moisture		Very Wet		Wet		Moist		Damp		Dry			
Color		Light		Medium		Dark		Olive		Gray		Brown	
												Black Other _____	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand		Silt	
												Clay _____	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand		Silt	
												Clay _____	
Biological:		Trace %		Debris:		Trace %		Oil Sheen:		None		Trace (<5%) _____ %	
Comments:													
Biological: worms													
Polychaete tubes, leaves													

SD-PER105-0314

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				3-13-14		Boeing PL2		SD-PER 105			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
199566			1271443			28.4	f t	1	0.2 Grab	1413	
Penetration			Sulfide	VOA	Weather	Surficial Wood Estimate:					
Depth	Unit	Initials				Contact Points					
15	c m	GSW			snag	_____ X 5 = _____ %					
Surficial sediment characteristics:											
Biological:		0 %		Debris:		Trace %		Oil Sheen:		None Trace (<5%) _____ %	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray Brown Black Other _____	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay _____	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay _____	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray Brown Black Other _____	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay _____	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay _____	
Biological:		Trace %		Debris:		Trace %		Oil Sheen:		None Trace (<5%) _____ %	
Comments:											
Biological: Worms											
Debris: no debris found											
AMEC Proj. BP2 Perimeter											
SD-PER105-0314 Initials: GSW											
QSC Form											
Date: 3/13/2014 Time: 1413											

## Page \_\_\_\_ of \_\_\_\_

Comments:

Behavioral: Worms

Debris: leaves, twigs



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SD-PER106-0314

# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	3-13-14	Boeing PL2	SD-PER 106

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
199431	1271459	21.0	f t	1	0.2 Grab	1134

Penetration		Initials	Sulfide	VOA	Weather	Fines (%)
Depth	Unit					
12	c m	GSN			part cloudy	

## Surficial Wood Estimate:

### Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: 0 % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense

Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

Biological: Trace % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

## Comments:

Biological: Worms  
Debris: leaves, seeds

AMEC Proj. BP2 Perimeter

SD-PER106-0314 Initials: GSN

QSC Form

Date: 3/13/2014 Time: 1134

## Page \_\_\_\_ of \_\_\_\_

**AMEC**, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000



# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number	
				3-13-14		Boeing PL2		SD-PER 106	

Coordinates				Water Depth		Rep	Gear	Time
North		East		Depth	Unit			
199426		1271453		20.5	f t	3	0.2 Grab	1202

Penetration		Initials	Sulfide	VOA	Weather	Fines (%)
Depth	Unit					
10	c m	63m			part cloudy	

**Surficial Wood Estimate:**

**Contact Points** \_\_\_\_\_ X 5 = \_\_\_\_\_ %

**Surficial sediment characteristics:**

Biological: Trace %    Debris: Trace %    Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

Moisture  
 Very Wet Wet    Moist    Damp    Dry

Color  
 Light Medium    Dark    Olive Gray Brown    Black    Other \_\_\_\_\_

(Circle major & underline modifying)

Major Constituent  
Fine    Medium    Coarse    Gravel    Sand    Silt    Clay

(Circle major & underline modifying)

Minor Constituent with trace  
Fine    Medium    Coarse    Gravel    Sand    Silt    Clay

**Subsurface sediment characteristics:**

**Density / Consistency**

Sand / Gravel -    Very Loose    Loose    Medium Dense    Dense    Very Dense

Silt / Clay -    Very Soft    Soft    Medium Stiff    Stiff    Very Stiff    Hard

Moisture  
 Very Wet Wet    Moist    Damp    Dry

Color  
 Light    Medium    Dark    Olive Gray    Brown    Black    Other \_\_\_\_\_

(Circle major & underline modifying)

Major Constituent  
Fine    Medium    Coarse    Gravel    Sand    Silt    Clay

(Circle major & underline modifying)

Minor Constituent with trace  
Fine    Medium    Coarse    Gravel    Sand    Silt    Clay

Biological: Trace %    Debris: Trace %    Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

**Comments:**

Biological: worms

Debris: leaves, twigs

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

SD-PER126-0314

# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	3-13-14	Boeing PL2	SD-PER 126

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
199434	1271462	22.8	f t	1	0.2 Grab	1244

Penetration	Unit	Initials	Sulfide	VOA	Weather	Fines (%)
12	c m	GSN			cloudy	

Surficial Wood Estimate:  
Contact Points \_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: Trace % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

Moisture  
Very Wet Wet Moist Damp Dry

Color  
Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

Major Constituent  
Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

Minor Constituent with trace  
Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense

Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

Moisture  
Very Wet Wet Moist Damp Dry

Color  
Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

Major Constituent  
Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

Minor Constituent with trace  
Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

Biological: Trace % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Comments:

Biological: Worms  
Debris: twigs, leaves

AMEC Proj. BP2 Perimeter

SD-PER126-0314 Initials: GSN

QSC Form

Date: 3 / 13 / 2014 Time: 1244

# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	3-13-14	Boeing PL2	SD-PER 126

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
199436	1271460	23.4	f t	2	0.2 Grab	1255

Penetration		Initials	Sulfide	VOA	Weather	Fines (%)
Depth	Unit					
12	c m	Gm			cloudy	

## Surficial Wood Estimate:

## Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: 0 % Debris: Debris % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

## Moisture

Very Wet Wet Moist Damp Dry

## Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

## Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

(Circle major & underline modifying)

## Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

## Subsurface sediment characteristics:

## Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense

Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

## Moisture

Very Wet Wet Moist Damp Dry

## Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

## Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

(Circle major & underline modifying)

## Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

Biological: Trace % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

## Comments:

Biological - waste  
Debris - twigs  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



## Page \_\_\_\_ of \_\_\_\_

Amin\Field Forms\QSC

SD-PER201-0314

# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	3-14-14	Plant 2	SD PER 201

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
198397	1272551	23.8	ft	1	0.2 grab	1406

Penetration		Initials	Sulfide	VOA	Weather	Fines (%)
Depth	Unit					
11	cm	CSN			part cloudy	

## Surficial Wood Estimate:

Contact Points \_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: 0 % Debris: 5 % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

Moisture  
Very Wet Wet Moist Damp Dry

Color  
Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

Major Constituent  
Fine Medium Coarse Gravel Sand Silt Clay

Minor Constituent with trace  
Fine Medium Coarse Gravel Sand Silt Clay

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense

Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

Moisture  
Very Wet Wet Moist Damp Dry

Color  
Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

Major Constituent  
Fine Medium Coarse Gravel Sand Silt Clay

Minor Constituent with trace  
Fine Medium Coarse Gravel Sand Silt Clay

Biological: Trace % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Comments:

attempt 1 not in zone - poor recovery reject - not bagged

attempt 2

Debris: leaves, grass

Biological: worms

AMEC Proj. BP2 Perimeter

SD-PER201-0314 Initials: CSN

QSC Form

Date: 3/14 /2014 Time: 1406

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				3-14-14		Plot 2		SD PER 201			
Coordinates						Water Depth					
North			East			Depth	Unit	Rep	Gear		
148392			1272550			26.4	ft	2	0.2 grab		
Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %				
Depth	Unit										
13	c m	6/2			partially						
Surficial sediment characteristics:											
Biological:		Trace		%		Debris:		Trace		%	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray	
								(Circle major & underline modifying)		Brown	
										Black	
										Other _____	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
										(Circle major & underline modifying)	
										Silt	
										Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff	
										Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray	
								(Circle major & underline modifying)		Brown	
										Black	
										Other _____	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
										(Circle major & underline modifying)	
										Silt	
										Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
										Silt	
										Clay	
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		%		Trace (<5%)				%	
Comments:											
sample disturbed from previous grab. Sample volume collected from undisturbed area											
Debris: twigs, grass											
Biological: Worms											



QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number		
				3-14-14		Plant 2		SB PER 201		
Coordinates						Water Depth		Time		
198397 North				East		Depth		Unit	Rep	
198398				1272558		26.6		f	3	
Penetration		Initials		Sulfide	VOA	Weather		Fines (%)		
Depth	Unit									
13	c m	637				part cloudy				
<b>Surficial Wood Estimate:</b> <b>Contact Points</b> _____ X 5 = _____ %										
<b>Surficial sediment characteristics:</b> Biological: <u>Trace</u> %    Debris: <u>Trace</u> %    Oil Sheen: <u>None</u> Trace (<5%) _____ % Moisture Very Wet <u>Wet</u> Moist    Damp    Dry Color Light <u>Medium</u> Dark    Olive    Gray <u>Brown</u> Black    Other _____ Major Constituent <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay Minor Constituent with trace <u>Fine</u> Medium    Coarse    Gravel    Sand    Silt    Clay										
<b>Subsurface sediment characteristics:</b> Density / Consistency <u>Sand / Gravel</u> -    Very Loose    Loose    Medium Dense    Dense    Very Dense <u>Silt / Clay</u> -    Very Soft <u>Soft</u> Medium Stiff    Stiff    Very Stiff    Hard Moisture Very Wet <u>Wet</u> Moist    Damp    Dry Color Light    Medium <u>Dark</u> Olive <u>Gray</u> Brown    Black    Other _____ Major Constituent <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay Minor Constituent with trace <u>Fine</u> Medium    Coarse    Gravel    Sand    Silt    Clay Biological: <u>Trace</u> %    Debris: <u>Trace</u> %    Oil Sheen: <u>None</u> Trace (<5%) _____ %										
<b>Comments:</b> <u>Debris: grass twigs</u> <u>Biological: worms</u>        										

SD-PER202-0314

# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	3-14-14	Boeing PL2	SD-PER 202

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
198 119	1272928	27.0	f t	1	0.2 Grab	1459

Penetration	Unit	Initials	Sulfide	VOA	Weather	Fines (%)
Depth						
11	c m	BSN			part cloudy	

Surficial Wood Estimate:

Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: Trace % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense  
Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

Biological: Trace % Debris: 0 % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Comments:

Debris: twigs, grass  
 Biological: worms

AMEC Proj. BP2 Perimeter

SD-PER202-0314 Initials: BSN

QSC Form

Date: 3 / 14 / 2014 Time: 1459

# QUALITATIVE SAMPLE CHARACTERISTICS

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Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	3-14-14	Boeing PL2	SD-PER 202

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
198 128	127 29 29	26.8	f t	2	0.2 Grab	15:3

Penetration	Unit	Initials	Sulfide	VOA	Weather	Fines (%)
Depth						
10	c m	CSM			partly dry	

Surficial Wood Estimate:

Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: 0 % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

Moisture  
Very Wet Wet Moist Damp Dry

Color  
Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

Major Constituent  
Fine Medium Coarse Gravel Sand Silt Clay

Minor Constituent with trace  
Fine Medium Coarse Gravel Sand Silt Clay

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense  
Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

Moisture  
Very Wet Wet Moist Damp Dry

Color  
Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

Major Constituent  
Fine Medium Coarse Gravel Sand Silt Clay

Minor Constituent with trace  
Fine Medium Coarse Gravel Sand Silt Clay

Biological: Trace % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Comments:

Debris: large fine organics  
Biological: Tricorina



QUALITATIVE SAMPLE CHARACTERISTICS												Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location			Sample Identification Number				
				3-14-14		Boeing PL2			SD-PER 202				
Coordinates						Water Depth				Time			
North			East			Depth	Unit	Rep	Gear				
198 122			127 2927			26.9	f t	3	0.2 Grab	1525			
Penetration			Sulfide	VOA	Weather		Fines (%)						
Depth	Unit	Initials											
13	c m	GSN			partly cloudy								
<b>Surficial Wood Estimate:</b> <b>Contact Points</b> _____ X 5 = _____ %													
<b>Surficial sediment characteristics:</b> Biological: <u>Trace</u> %    Debris: <u>Trace</u> %    Oil Sheen: <u>None</u> Trace (<5%) _____ % Moisture Very Wet <u>Wet</u> Moist    Damp    Dry Color Light <u>Medium</u> Dark    Olive    Gray <u>Brown</u> Black    Other _____ Major Constituent <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay Minor Constituent with trace <u>Fine</u> Medium    Coarse    Gravel    Sand    Silt    Clay													
<b>Subsurface sediment characteristics:</b> Density / Consistency <u>Sand / Gravel</u> -    Very Loose    Loose    Medium Dense    Dense    Very Dense <u>Silt / Clay</u> -    Very Soft <u>Soft</u> Medium Stiff    Stiff    Very Stiff    Hard Moisture Very Wet <u>Wet</u> Moist    Damp    Dry Color Light    Medium <u>Dark</u> Olive <u>Gray</u> Brown    Black    Other _____ Major Constituent <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay Minor Constituent with trace <u>Fine</u> Medium    Coarse    Gravel    Sand    Silt    Clay Biological: <u>Trace</u> %    Debris: <u>Trace</u> %    Oil Sheen: <u>None</u> Trace (<5%) _____ %													
<b>Comments:</b> <u>Debris: twigs, fine organics</u> <u>Biological: worms</u>       													

SD-PER203-0314

# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	3-14-14	Boeing PL2	SD-PER 203

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
198134	1272621	9.8	f t	1	0.2 Grab	1008

Penetration	Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %
Depth	Unit					
10	c m	6m		poor study		

## Surficial sediment characteristics:

Biological: 0 % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

Moisture  
Very Wet Wet Moist Damp Dry

Color  
Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_  
(Circle major & underline modifying)

Major Constituent  
Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_  
(Circle major & underline modifying)

Minor Constituent with trace  
Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense

Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

Moisture  
Very Wet Wet Moist Damp Dry

Color  
Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_  
(Circle major & underline modifying)

Major Constituent  
Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_  
(Circle major & underline modifying)

Minor Constituent with trace  
Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

Biological: Trace % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Comments:

Biological: clams  
Debris: organics, twigs  
AMEC Proj. BP2 Perimeter  
SD-PER203-0314 Initials: SM  
QSC Form  
Date: 3/14/2014 Time: 1008

# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum		Date (mm/dd/yy)	Project Location		Sample Identification Number	
		3-14-14	Boeing PL2		SD-PER 203	
Coordinates			Water Depth		Time	
North		East		Depth	Unit	Rep
198136		1272622		10.9	f t	2
						Gear
						0.2 Grab
						1025

Penetration		Initials	Sulfide	VOA	Weather	Fines (%)
Depth	Unit					
10	c m	637			part cloudy	

## Surficial Wood Estimate:

### Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: 0 % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense

Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

Biological: Trace % Debris: S % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Comments:

attempt 2 - grab did not close

Biological: worms

Debris: decomposing organics, leaves



# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum		Date (mm/dd/yy)	Project Location		Sample Identification Number	
		3-14-14	Boeing PL2		SD-PER 203	
Coordinates				Water Depth		Time
North		East		Depth	Unit	
198 139		127 26 26		19.3	f t	3
				Rep	Gear	
					0.2 Grab	1036

Penetration		Initials	Sulfide	VOA	Weather	Fines (%)
Depth	Unit					
12	c m	SM			part cloudy	

## Surficial Wood Estimate:

### Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: Trace % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense

Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

Biological: Trace % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Comments:

Debris: fine organics, seeds, pine needles  
organics: worms

SD-PER204-0314

## Page of

AMEC, 3500 188th St. SW, Suite 601, Lyn. WA 98037, (425) 921-4000

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				3-17-14		Boeing PL2		SD-PER 204			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
197919			1273011			~22	f t	2	0.2 Grab	1030	
Penetration			Sulfide	VOA	Weather	Surficial Wood Estimate:					
Depth	Unit	Initials				Contact Points					
15	c m	67W			sandy	_____ X 5 = _____ %					
Surficial sediment characteristics:											
Biological:		0 %		Debris:		trace %		Oil Sheen:		None Trace (<5%) _____ %	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray Brown Black Other _____	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay _____	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay _____	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray Brown Black Other _____	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay _____	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay _____	
Biological:		trace %		Debris:		trace %		Oil Sheen:		None Trace (<5%) _____ %	
Comments:											
strong current - taking depth difficult											
shells, leaves, worms											



## Page of

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SD-PER205-0314

# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	3-17-14	Boeing PL2	SD-PER 205

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
197714	1273384	220	f t	)	0.2 Grab	1104

Penetration	Depth	Unit	Initials	Sulfide	VOA	Weather	Fines (%)
	c	m	GSN			sunny	

Surficial Wood Estimate:

Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: 0 % Debris: trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense  
Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

Biological: trace % Debris: 0 % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Comments:

very strong current - hard to get water depth  
gravel bottom

AMEC Proj. BP2 Perimeter

SD-PER205-0314 Initials: GSN

QSC Form

Date: 3/17/2014 Time: 1104



## Page \_\_\_\_ of \_\_\_\_

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# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	3-17-14	Boeing PL2	SD-PER 205

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
197718	1273381	21	f t	3	0.2 Grab	1151

Penetration	Depth	Unit	Initials	Sulfide	VOA	Weather	Fines (%)
	15	c m	62N			sunny	

Surficial Wood Estimate:

Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: 0 % Debris: trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

Moisture  
Very Wet Wet Moist Damp Dry

Color  
Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

Major Constituent  
Fine Medium Coarse Gravel Sand Silt Clay

Minor Constituent with trace  
Fine Medium Coarse Gravel Sand Silt Clay

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense  
Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

Moisture  
Very Wet Wet Moist Damp Dry

Color  
Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

Major Constituent  
Fine Medium Coarse Gravel Sand Silt Clay

Minor Constituent with trace  
Fine Medium Coarse Gravel Sand Silt Clay

Biological: trace % Debris: trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Comments:

1139 poor penetration reject  
strong current  
twice, grass, warm

SD-PER206-0314

# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	3-14-14	Boeing PL2	SD-PER 206

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
197710	1273137	10.4	f t	1	0.2 Grab	1100

Penetration		Initials	Sulfide	VOA	Weather	Fines (%)
Depth	Unit					
10	c m	63m			part cloudy	

## Surficial Wood Estimate:

### Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: 0 % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense

Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

Biological: 0 % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

## Comments:

Debris: shells, twigs

AMEC Proj. BP2 Perimeter

SD-PER206-0314 Initials: GSN

Q5C Form

Date: 3 / 14 / 2014 Time: 1100



# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number	
				3-14-14		Boeing PL2		SD-PER 206	

Coordinates				Water Depth				Time	
North		East		Depth	Unit	Rep	Gear		
197708		1273135		9.9	f t	2	0.2 Grab	1119	

Penetration		Initials	Sulfide	VOA	Weather	Fines (%)
Depth	Unit					
13	c m	SM			part cloudy	

**Surficial Wood Estimate:**

**Contact Points** \_\_\_\_\_ X 5 = \_\_\_\_\_ %

**Surficial sediment characteristics:**

Biological: Trace %    Debris: Trace %    Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

**Moisture**  
 Very Wet    Wet    Moist    Damp    Dry

**Color**  
 Light    Medium    Dark    Olive    Gray    Brown    Black    Other \_\_\_\_\_

**Major Constituent** (Circle major & underline modifying)  
Fine    Medium    Coarse    Gravel    Sand    Silt    Clay

**Minor Constituent with trace**  
Fine    Medium    Coarse    Gravel    Sand    Silt    Clay

**Subsurface sediment characteristics:**

**Density / Consistency**

Sand / Gravel -    Very Loose    Loose    Medium Dense    Dense    Very Dense

Silt / Clay -    Very Soft    Soft    Medium Stiff    Stiff    Very Stiff    Hard

**Moisture**  
 Very Wet    Wet    Moist    Damp    Dry

**Color**  
 Light    Medium    Dark    Olive    Gray    Brown    Black    Other \_\_\_\_\_

**Major Constituent** (Circle major & underline modifying)  
Fine    Medium    Coarse    Gravel    Sand    Silt    Clay

**Minor Constituent with trace**  
Fine    Medium    Coarse    Gravel    Sand    Silt    Clay

Biological: 0 %    Debris: Trace %    Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

**Comments:**

attempt 1 rocks in jaws - reject - not logged in GPS

attempt 2 poor penetration - reject

attempt 3 good

Biological: worms

Debris: bricks, twigs



QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				3-14-14		Boeing PL2		SD-PER 206			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
147709			1273130			9.5	f t	3	0.2 Grab	1131	
Penetration				Sulfide	VOA	Weather		Fines (%)			
Depth	Unit	Initials									
12	c m	SSM				part cloudy					
<div style="display: flex; justify-content: space-between;"> <div> <b>Surficial Wood Estimate:</b>  <b>Contact Points</b> _____ X 5 = _____ % </div> </div>											
<b>Surficial sediment characteristics:</b> Biological: <u>Trace</u> %    Debris: <u>Trace</u> %    Oil Sheen: <u>None</u> Trace (<5%) _____ % Moisture Very Wet <u>Wet</u> Moist    Damp    Dry Color Light <u>Medium</u> Dark    Olive <u>Gray</u> <u>Brown</u> Black    Other _____ (Circle major & underline modifying) Major Constituent <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay (Circle major & underline modifying) Minor Constituent with trace <u>Fine</u> Medium    Coarse    Gravel    Sand    Silt    Clay											
<b>Subsurface sediment characteristics:</b> Density / Consistency <div style="display: flex; justify-content: space-between;"> <div> <u>Sand / Gravel -</u>    Very Loose    Loose    Medium Dense    Dense    Very Dense  <u>Silt / Clay -</u>    Very Soft    <u>Soft</u>    Medium Stiff    Stiff    Very Stiff    Hard </div> </div> Moisture Very Wet <u>Wet</u> Moist    Damp    Dry Color Light    Medium <u>Dark</u> Olive <u>Gray</u> <u>Brown</u> Black    Other _____ (Circle major & underline modifying) Major Constituent <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay (Circle major & underline modifying) Minor Constituent with trace <u>Fine</u> Medium    Coarse    Gravel    Sand    Silt    Clay Biological: <u>0</u> %    Debris: <u>0</u> %    Oil Sheen: <u>None</u> Trace (<5%) _____ %											
<b>Comments:</b> <u>Biological: Worms</u> <u>Debris: fine organic</u>       											

SD-PER207-0314

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				3-17-14		Boeing PL2		SD-PER 207			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
197502			127348)			16.6	f t	1	0.2 Grab	1245	
Penetration			Sulfide	VOA	Weather	Surficial Wood Estimate:					
Depth	Unit	Initials				Contact Points					
15	c m	SM			part cloudy	_____ X 5 = _____ %					
Surficial sediment characteristics:											
Biological:		0		%		Debris:		trace		%	
Oil Sheen:		None		Trace (<5%)						%	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		Gray		Brown	
										Black	
										Other _____	
Major Constituent											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff	
										Hard	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		Gray		Brown	
										Black	
										Other _____	
Major Constituent											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Biological:		trace		%		Debris:		trace		%	
Oil Sheen:		None		Trace (<5%)						%	
Comments:											
grass, worm, twigs											
AMEC Proj. BP2 Perimeter											
SD-PER207-0314 Initials: SM											
QSC Form											
Date: 3 / 17 / 2014 Time: 1245											

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**AMEC**, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000

SD-PER208-0314

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				3-17-14		Boeing PL2		SD-PER 208			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
197341			1273798			21.0	f t	1	0.2 Grab	1422	
Penetration			Sulfide	VOA	Weather	Surficial Wood Estimate:					
Depth	Unit	Initials				Contact Points					
15	c m	GSN			part cloudy	_____ X 5 = _____ %					
Surficial sediment characteristics:											
Biological:		0 %		Debris:		trace %		Oil Sheen:		None Trace (<5%) %	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		(Circle major & underline modifying)			
								Olive		Gray Brown Black Other	
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying)			
								Gravel		Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel Sand Silt Clay			
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		(Circle major & underline modifying)			
								Olive		Gray Brown Black Other	
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying)			
								Gravel		Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel Sand Silt Clay			
Biological:		trace %		Debris:		trace %		Oil Sheen:		None Trace (<5%) %	
Comments:											
leaves, worms											
AMEC Proj. BP2 Perimeter											
SD-PER208-0314 Initials: GSN											
QSC Form											
Date: 3/17/2014 Time: 1422											



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# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	3-17-14	Boeing PL2	SD-PER 208

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
197350	1273793	22.2	f t	3	0.2 Grab	1448

Penetration	Depth	Unit	Initials	Sulfide	VOA	Weather	Fines (%)
	15	c m	650			part cloudy	

Surficial Wood Estimate:

Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: 0 % Debris: TRACE % Oil Sheen: None Trace (<5%) %

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense  
Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

Biological: TRACE % Debris: TRACE % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Comments:

leaves, shells (pieces)  
piece of wood

SD-PER209-0314

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				3-14-14		Boeing PL2		SD-PER 209			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
197308			1273588			10.5	f t	1	0.2 Grab	1223	
Penetration				Sulfide	VOA	Weather		Fines (%)			
Depth	Unit	Initials									
10	c m	GSN				part cloudy					
<b>Surficial Wood Estimate:</b> <b>Contact Points</b> _____ X 5 = _____ %											
<b>Surficial sediment characteristics:</b>											
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)						%	
<b>Moisture</b> Very Wet <u>Wet</u> Moist    Damp    Dry											
<b>Color</b> Light <u>Medium</u> Dark    Olive    Gray <u>Brown</u> Black    Other _____											
(Circle major & underline modifying)											
<b>Major Constituent</b> <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay											
(Circle major & underline modifying)											
<b>Minor Constituent with trace</b> <u>Fine</u> Medium    Coarse    Gravel    Sand    Silt    Clay											
<b>Subsurface sediment characteristics:</b>											
<b>Density / Consistency</b>											
<u>Sand / Gravel -</u>		Very Loose		Loose		<u>Medium Dense</u>		Dense		Very Dense	
<u>Silt / Clay -</u>		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff    Hard	
<b>Moisture</b> Very Wet <u>Wet</u> Moist    Damp    Dry											
<b>Color</b> Light    Medium <u>Dark</u> Olive    Gray <u>Brown</u> Black    Other <u>Red</u>											
(Circle major & underline modifying)											
<b>Major Constituent</b> <u>Fine</u> Medium    Coarse    Gravel <u>Sand</u> Silt    Clay											
(Circle major & underline modifying)											
<b>Minor Constituent with trace</b> <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay											
Biological:		0		%		Debris:		0		%	
Oil Sheen:		None		Trace (<5%)						%	
<b>Comments:</b>											
attempt 1 leakage + poor penetration - reject - no GPS log attempt 2 soil - mislabeled in GPS as R2 Biological: worms Debris: fine organics											
AMEC Proj. BP2 Perimeter											
SD-PER209-0314 Initials: GSN											
QSC Form											
Date: 3/14/2014 Time: 1223											

QUALITATIVE SAMPLE CHARACTERISTICS												Page ____ of ____	
Coordinate Datum						Date (mm/dd/yy)		Project Location		Sample Identification Number			
						3-14-14		Boeing PL2		SD-PER 209			
Coordinates								Water Depth				Time	
North				East				Depth	Unit	Rep	Gear		
197306				1273586				9.8	f t	2	0.2 Grab	1233	
Penetration				Sulfide	VOA	Weather		Fines (%)		<b>Surficial Wood Estimate:</b> <b>Contact Points</b> _____ X 5 = _____ %			
Depth	Unit	Initials											
10	c m	cm				part dry							
<b>Surficial sediment characteristics:</b> Biological: <u>Trace</u> %    Debris: <u>Trace</u> %    Oil Sheen: <u>None</u> Trace (<5%) _____ % Moisture    Very Wet <u>Wet</u> Moist    Damp    Dry Color    Light <u>Medium</u> Dark    Olive    Gray <u>Brown</u> Black    Other _____ (Circle major & underline modifying) Major Constituent <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay _____ (Circle major & underline modifying) Minor Constituent with trace <u>Fine</u> Medium    Coarse    Gravel    Sand    Silt    Clay _____													
<b>Subsurface sediment characteristics:</b> Density / Consistency <u>Sand / Gravel</u> -    Very Loose    Loose <u>Medium Dense</u> Dense    Very Dense <u>Silt / Clay</u> -    Very Soft    Soft    Medium Stiff    Stiff    Very Stiff    Hard Moisture    Very Wet <u>Wet</u> Moist    Damp    Dry Color    Light    Medium <u>Dark</u> Olive    Gray <u>Brown</u> Black    Other <u>Red</u> (Circle major & underline modifying) Major Constituent <u>Fine</u> Medium    Coarse    Gravel <u>Sand</u> Silt    Clay _____ (Circle major & underline modifying) Minor Constituent with trace <u>Fine</u> Medium    Coarse    Gravel    Sand    Silt    Clay _____ Biological: <u>Trace</u> %    Debris: <u>0</u> %    Oil Sheen: <u>None</u> Trace (<5%) _____ %													
<b>Comments:</b> <u>Biological: worms</u> <u>Colored fine organics</u> _____ _____ _____ _____ _____													



QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____														
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number																
				3-14-14		Plot 2		50 PER 279																
Coordinates						Water Depth				Time														
North			East			Depth	Unit	Rep	Gear															
197311			1273579			10.7	1	1	3	2.2 grab	1257													
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="2">Penetration</th> <th rowspan="2">Initials</th> <th rowspan="2">Sulfide</th> <th rowspan="2">VOA</th> <th rowspan="2">Weather</th> <th rowspan="2">Fines (%)</th> </tr> <tr> <th>Depth</th> <th>Unit</th> </tr> <tr> <td>18</td> <td>c m</td> <td>6.1 m</td> <td></td> <td></td> <td>part cloudy</td> <td></td> </tr> </table>				Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	Depth	Unit	18	c m	6.1 m			part cloudy		<b>Surficial Wood Estimate:</b> <b>Contact Points</b> _____ X 5 = _____ %				
Penetration		Initials	Sulfide	VOA	Weather						Fines (%)													
Depth	Unit																							
18	c m	6.1 m			part cloudy																			
<b>Surficial sediment characteristics:</b> Biological: <u>Trace</u> %    Debris: <u>Trace</u> %    Oil Sheen: <u>None</u> Trace (<5%) _____ % Moisture Very Wet <u>Wet</u> Moist    Damp    Dry Color Light <u>Medium</u> Dark    Olive <u>Gray</u> <u>Brown</u> Black    Other _____ (Circle major & underline modifying) Major Constituent <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay (Circle major & underline modifying) Minor Constituent with trace <u>Fine</u> Medium    Coarse    Gravel    Sand    Silt    Clay																								
<b>Subsurface sediment characteristics:</b> Density / Consistency <u>Sand / Gravel</u> -    Very Loose    Loose <u>Medium Dense</u> Dense    Very Dense <u>Silt / Clay</u> -    Very Soft    Soft    Medium Stiff    Stiff    Very Stiff    Hard Moisture Very Wet <u>Wet</u> Moist    Damp    Dry Color Light    Medium <u>Dark</u> Olive    Gray <u>Brown</u> Black    Other <u>Red</u> (Circle major & underline modifying) Major Constituent <u>Fine</u> Medium    Coarse    Gravel <u>Sand</u> Silt    Clay (Circle major & underline modifying) Minor Constituent with trace <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay Biological: <u>0</u> %    Debris: <u>0</u> %    Oil Sheen: <u>None</u> Trace (<5%) _____ %																								
<b>Comments:</b> att. mpt 1 - leakage - reject    not logged in GPS att. mpt 2 - reject    poor penetration att. mpt 3 - lowered height of grab - leakage - reject att. mpt 4 - good Debris: fine materials Biological: worms																								

SD-PER210-0314

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				3-21-14		Boeing PL2		SD-PER 210			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
197085			1273938			16.3	f t	1	0.2 Grab	1420	
Penetration			Sulfide	VOA	Weather		Fines (%)				
Depth	Unit	Initials									
15	c m	65N			partly cloudy						
Surficial Wood Estimate:											
Contact Points						_____ X 5 = _____ %					
Surficial sediment characteristics:											
Biological:		0 %		Debris:		55 %		Oil Sheen:		None Trace (<5%) 0 %	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive Gray Brown		Black		Other _____	
(Circle major & underline modifying)											
Major Constituent											
Fine		Medium		Coarse		Gravel Sand		Silt		Clay	
(Circle major & underline modifying)											
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel Sand		Silt		Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive Gray Brown		Black		Other _____	
(Circle major & underline modifying)											
Major Constituent											
Fine		Medium		Coarse		Gravel Sand		Silt		Clay	
(Circle major & underline modifying)											
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel Sand		Silt		Clay	
Biological:		0 %		Debris:		55 %		Oil Sheen:		None Trace (<5%) 0 %	
Comments:											
Surface Debris: plant-bags, wood stems											
Sub Debris: wood stems											
AMEC Proj. BP2 Perimeter											
SD-PER210-0314 Initials: 65N											
QSC Form											
Date: 3 / 21 / 2014 Time: 1420											



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AMEC, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000



QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number		
				3-21-14		Boeing PL2		SD-PER 210		
Coordinates						Water Depth				
North			East			Depth	Unit	Rep	Gear	
197085			1273942			16.3	f	3	0.2 Grab	
Penetration			Sulfide	VOA	Weather	Surficial Wood Estimate:				
Depth	Unit	Initials				Contact Points				
15	c m	GSN			part cloudy	_____ X 5 = _____ %				
Surficial sediment characteristics:										
Biological:		0 %		Debris:		55 %		Oil Sheen:		None Trace (<5%) 0 %
Moisture										
Very Wet		Wet		Moist		Damp		Dry		
Color										
Light		Medium		Dark		(Circle major & underline modifying)		Olive Gray Brown Black Other		
Major Constituent										
Fine		Medium		Coarse		(Circle major & underline modifying)		Gravel Sand Silt Clay		
Minor Constituent with trace										
Fine		Medium		Coarse				Gravel Sand Silt Clay		
Subsurface sediment characteristics:										
Density / Consistency										
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard
Moisture										
Very Wet		Wet		Moist		Damp		Dry		
Color										
Light		Medium		Dark		(Circle major & underline modifying)		Olive Gray Brown Black Other		
Major Constituent										
Fine		Medium		Coarse		(Circle major & underline modifying)		Gravel Sand Silt Clay		
Minor Constituent with trace										
Fine		Medium		Coarse				Gravel Sand Silt Clay		
Biological:		0 %		Debris:		55 %		Oil Sheen:		None Trace (<5%) _____ %
Comments:										
surface debris: plant stems										
sub debris: plant stems										

SD-PER230-0314

QUALITATIVE SAMPLE CHARACTERISTICS												Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location			Sample Identification Number				
				3-21-14		Boeing PL2			SD-PER 230				
Coordinates						Water Depth				Time			
North			East			Depth	Unit	Rep	Gear				
197083			1273948			16.3	f t	1	0.2 Grab	1507			
Penetration				Sulfide	VOA	Weather		Fines (%)		<b>Surficial Wood Estimate:</b> <b>Contact Points</b> _____ X 5 = _____ %			
Depth	Unit	Initials											
14	c m	CSN				root decay							
<b>Surficial sediment characteristics:</b>													
Biological:		0 %		Debris:		55 %		Oil Sheen:		None Trace (<5%) 0 %			
Moisture		Very Wet		Wet		Moist		Damp		Dry			
Color		Light		Medium		Dark		Olive		Gray Brown Black Other			
								(Circle major & underline modifying)					
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay			
								(Circle major & underline modifying)					
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay			
<b>Subsurface sediment characteristics:</b>													
<b>Density / Consistency</b>													
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense			
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard			
Moisture		Very Wet		Wet		Moist		Damp		Dry			
Color		Light		Medium		Dark		Olive		Gray Brown Black Other			
								(Circle major & underline modifying)					
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay			
								(Circle major & underline modifying)					
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay			
Biological:		0 %		Debris:		10 %		Oil Sheen:		None Trace (<5%) 0 %			
<b>Comments:</b>													
Surface Debris: straw Sub Debris: wood, straw, leaves, plants, stems, weed													
AMEC Proj. BP2 Perimeter SD-PER230-0314 Initials: CSN QSC Form Date: 3/21/2014 Time: 1507													



QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				3-21-14		Boeing PL2		SD-PER 230			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
147087			1273942			14.7	f	1	2	0.2 Grab 1522	
Penetration						Surficial Wood Estimate:					
Depth	Unit	Initials	Sulfide	VOA	Weather	Contact Points					
15	c m	60m			part cloudy windy	_____ X 5 = _____ %					
Surficial sediment characteristics:											
Biological:		250		%		Debris:		55		%	
Oil Sheen:		None		Trace (<5%)		0		%			
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		Gray		Brown	
										Black	
										Other _____	
Major Constituent											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff	
										Hard	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		Gray		Brown	
										Black	
										Other _____	
Major Constituent											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Biological:		0		%		Debris:		55		%	
Oil Sheen:		None		Trace (<5%)		0		%			
Comments:											
Surface Debris: straw											
Sub Debris: straw, leaves											



QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				3-21-14		Boeing PL2		SD-PER 230			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
197079			1273942			15.8	f t	3	0.2 Grab	1537	
Penetration			Sulfide	VOA	Weather	Surficial Wood Estimate:					
Depth	Unit	Initials				Contact Points					
16	c m	G.M.			part cloudy windy	_____ X 5 = _____ %					
Surficial sediment characteristics:											
Biological:		0 %		Debris:		0 %		Oil Sheen:		None Trace (<5%) 0 %	
Moisture		Wet		Moist		Damp		Dry			
Color		Medium		Dark		Olive Gray Brown Black		Other			
Major Constituent		Fine		Medium		Coarse		Gravel Sand Silt Clay			
Minor Constituent with trace		Fine		Medium		Coarse		Gravel Sand Silt Clay			
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Wet		Moist		Damp		Dry			
Color		Medium		Dark		Olive Gray Brown Black		Other			
Major Constituent		Fine		Medium		Coarse		Gravel Sand Silt Clay			
Minor Constituent with trace		Fine		Medium		Coarse		Gravel Sand Silt Clay			
Biological:		55 %		Debris:		55 %		Oil Sheen:		None Trace (<5%) 0 %	
Comments:											
704 600' small worms											
704 600' debris, leaves, wood leaves											

SD-PER211-0314

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				3-17-14		Boeing PL2		SD-PER 211			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
196841			1274299			24.7	f t	1	0.2 Grab	1506	
Penetration				Sulfide	VOA	Weather		Fines (%)			
Depth	Unit	Initials									
15	cm	GSN				part cloudy					
Surficial Wood Estimate:											
Contact Points						_____ X 5 = _____ %					
Surficial sediment characteristics:											
Biological:		0 %		Debris:		5 %		Oil Sheen:		None Trace (<5%) _____ %	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		(Circle major & underline modifying)			
								Olive Gray Brown Black Other			
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying)			
								Gravel Sand Silt Clay			
Minor Constituent with trace		Fine		Medium		Coarse		Gravel Sand Silt Clay			
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		(Circle major & underline modifying)			
								Olive Gray Brown Black Other			
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying)			
								Gravel Sand Silt Clay			
Minor Constituent with trace		Fine		Medium		Coarse		Gravel Sand Silt Clay			
Biological:		5 %		Debris:		5 %		Oil Sheen:		None Trace (<5%) _____ %	
Comments:											
wood, grass, leaves, twigs											
wood 11											
AMEC Proj. BP2 Perimeter											
SD-PER211-0314 Initials: GSN											
QSC Form											
Date: 3/17/2014 Time: 1506											

## Page \_\_\_\_ of \_\_\_\_

Amin\Field Forms\QSC



# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	3-17-14	Boeing PL2	SD-PER 211

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
196839	1274296	26.0	f t	3	0.2 Grab	1529

Penetration	Depth	Unit	Initials	Sulfide	VOA	Weather	Fines (%)
	15	cm	SN			post cloudy	

Surficial Wood Estimate:

Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: 0 % Debris: 5 % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

Moisture  
Very Wet Wet Moist Damp Dry

Color  
Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_  
(Circle major & underline modifying)

Major Constituent  
Fine Medium Coarse Gravel Sand Silt Clay  
(Circle major & underline modifying)

Minor Constituent with trace  
Fine Medium Coarse Gravel Sand Silt Clay

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense  
Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

Moisture  
Very Wet Wet Moist Damp Dry

Color  
Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_  
(Circle major & underline modifying)

Major Constituent  
Fine Medium Coarse Gravel Sand Silt Clay  
(Circle major & underline modifying)

Minor Constituent with trace  
Fine Medium Coarse Gravel Sand Silt Clay

Biological: 5 % Debris: 5 % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Comments:

gross, leave > 15kts. water

SD-PER212-0314

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number		
				3-24-14		Boeing PL2		SD-PER 212		
Coordinates						Water Depth			Time	
North			East			Depth	Unit	Rep	Gear	
196822			1274132			12.4	f t	1	0.2 Grab	
Penetration			Sulfide	VOA	Weather	Surficial Wood Estimate:				
Depth	Unit	Initials				Contact Points _____ X 5 = _____ %				
10	c m	GSM			sunny					
Surficial sediment characteristics:										
Biological: _____ %		Debris: <u>Trace</u> %		Oil Sheen: <u>None</u>		Trace (<5%) _____ %				
Moisture										
Very Wet		<u>Wet</u>		Moist		Damp		Dry		
Color										
Light		Medium		<u>Dark</u>		(Circle major & underline modifying)				
						Olive		<u>Gray</u> <u>Brown</u> Black Other _____		
Major Constituent										
<u>Fine</u>		Medium		Coarse		(Circle major & underline modifying)				
						Gravel		<u>Sand</u> Silt Clay _____		
Minor Constituent with trace										
<u>Fine</u>		Medium		Coarse						
						Gravel		Sand <u>Silt</u> Clay _____		
Subsurface sediment characteristics:										
Density / Consistency										
<u>Sand / Gravel -</u>		Very Loose		<u>Loose</u>		Medium Dense		Dense Very Dense		
<u>Silt / Clay -</u>		Very Soft		Soft		Medium Stiff		Stiff Very Stiff Hard		
Moisture										
Very Wet		<u>Wet</u>		Moist		Damp		Dry		
Color										
Light		<u>Medium</u>		Dark		(Circle major & underline modifying)				
						Olive		<u>Gray</u> <u>Brown</u> Black Other _____		
Major Constituent										
<u>Fine</u>		Medium		Coarse		(Circle major & underline modifying)				
						Gravel		<u>Sand</u> Silt Clay _____		
Minor Constituent with trace										
<u>Fine</u>		Medium		Coarse						
						Gravel		Sand <u>Silt</u> Clay _____		
Biological: _____ %		Debris: _____ %		Oil Sheen: <u>None</u>		Trace (<5%) _____ %				
Comments:										
<u>Debris: small wood fragments</u>										
_____ AMEC Proj. BP2 Perimeter _____										
_____ SD-PER212-0314 Initials: <u>GSM</u> _____										
_____ QSC Form _____										
_____ Date: <u>3/24</u> /2014 Time: <u>846</u> _____										

# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	3-24-19	Boeing PL2	SD-PER 212

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
196826	127425	11.9	f t	2	0.2 Grab	859

Penetration		Initials	Sulfide	VOA	Weather	Fines (%)
Depth	Unit					
11	c m	CSM			swampy	

Surficial Wood Estimate:

Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: 0 % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark (Circle major & underline modifying) Olive Gray Brown Black Other \_\_\_\_\_

### Major Constituent

Fine Medium Coarse (Circle major & underline modifying) Gravel Sand Silt Clay \_\_\_\_\_

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense

Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark (Circle major & underline modifying) Olive Gray Brown Black Other \_\_\_\_\_

### Major Constituent

Fine Medium Coarse (Circle major & underline modifying) Gravel Sand Silt Clay \_\_\_\_\_

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

Biological: 0 % Debris: 0 % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Comments:

Debris: grass, twigs

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# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	3-24-14	Boeing PL2	SD-PER 212

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
146822	1274124	11.5	f t	3	0.2 Grab	908

Penetration	Unit	Initials	Sulfide	VOA	Weather	Fines (%)
Depth						
14	c m	SM			sunny	

Surficial Wood Estimate:

Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: 0 % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense  
Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay

Biological: 0 % Debris: S % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Comments:

Debris: back pieces, twigs

SD-PER213-0314

## Page of

**AMEC**, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000

## Page \_\_\_\_ of \_\_\_\_

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## Page of

**AMEC**, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000

**SD-PER301-1213**

# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	3-14-14	Boeing PL2	SD-PER 301

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
196485	1274640	22.7	f t	1	0.2 Grab	901

Penetration	Initials	Sulfide	VOA	Weather	Fines (%)
Depth Unit					
14 c m	657			cloudy	

Surficial Wood Estimate:

Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: 0 % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

Moisture  
Very Wet Wet Moist Damp Dry

Color  
Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

Major Constituent  
Fine Medium Coarse Gravel Sand Silt Clay

Minor Constituent with trace  
Fine Medium Coarse Gravel Sand Silt Clay

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense  
Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

Moisture  
Very Wet Wet Moist Damp Dry

Color  
Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

Major Constituent  
Fine Medium Coarse Gravel Sand Silt Clay

Minor Constituent with trace  
Fine Medium Coarse Gravel Sand Silt Clay

Biological: 0 % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Comments:

Debris: leaves, twigs

AMEC Proj. BP2 Perimeter

SD-PER 301-0314 Initials: 657

QSC Form

Date: 3 / 14 / 2014 Time: 901

## Page of

Amin\Field Forms\QSC



QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				30/4-14		Boeing PL2		SD-PER 301			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
196481			1274634			21.9	f t	3	0.2 Grab	940	
Penetration			Sulfide	VOA	Weather	Surficial Wood Estimate:					
Depth	Unit	Initials				Contact Points					
12	c m	CSN			cloudy	_____ X 5 = _____ %					
Surficial sediment characteristics:											
Biological:		Trace		Debris:		Trace		Oil Sheen:		None	
		0.57 %				%				Trace (<5%) _____ %	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		Gray		Brown	
										Black	
										Other _____	
Major Constituent											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff	
										Hard	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		Gray		Brown	
										Black	
										Other _____	
Major Constituent											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Biological:		Traces		Debris:		0		Oil Sheen:		None	
		%				%				Trace (<5%) _____ %	
Comments:											
Gravel caused leakage to occur on one side of grab											
Sample collected from undisturbed side											
Biological: worms											
Detrital leaves, twigs											

SD-PER302-0314

# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	3-13-14	Boeing PL2	SD-PER 302

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
196410	1274777	21.7	f t	1	0.2 Grab	942

Penetration		Initials	Sulfide	VOA	Weather	Fines (%)
Depth	Unit					
10	c m	GSM			part cloudy	

Surficial Wood Estimate:

Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: 0 % Debris: Trace % Oil Sheen: None Trace (<5%) %

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense

Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay

Biological: 0 % Debris: 0 % Oil Sheen: None Trace (<5%) %

### Comments:

Debris: leaves, twigs

AMEC Proj. BP2 Perimeter	
SD-PER302-0314 Initials: GSM	
QSC Form	
Date: 3/13/2014 Time: 942	

# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	3-13-14	Boeing PL2	SD-PER 302

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
196419	1274773	22.4	f t	2	0.2 Grab	954

Penetration		Initials	Sulfide	VOA	Weather	Fines (%)
Depth	Unit					
10	c m	CSN			part cloudy	

Surficial Wood Estimate:

Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: 0 % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense

Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

Biological: Trace % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Comments:

Debris: leaves, twigs  
Biological: unknown



QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				3-13-14		Boeing PL2		SD-PER 302			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
196415			1274773			21.9	f t	3	0.2 Grab	1005	
Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %				
Depth	Unit										
10	c m	sm			part cloudy						
Surficial sediment characteristics:											
Biological:		0 %		Debris:		Trace %		Oil Sheen:		None Trace (<5%) %	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		(Circle major & underline modifying)			
								Olive Gray Brown Black Other			
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying)			
								Gravel Sand Silt Clay			
Minor Constituent with trace		Fine		Medium		Coarse		Gravel Sand Silt Clay			
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		(Circle major & underline modifying)			
								Olive Gray Brown Black Other			
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying)			
								Gravel Sand Silt Clay			
Minor Constituent with trace		Fine		Medium		Coarse		Gravel Sand Silt Clay			
Biological:		Trace %		Debris:		Trace %		Oil Sheen:		None Trace (<5%) %	
Comments:											
Biological: Worms											
Debris: leaves, fungi											

SD-PER303-0314

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				3-13-14		Boeing PL2		SD-PER 303			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
196265			1274852			13.3	f t	1	0.2 Grab	856	
Penetration			Sulfide	VOA	Weather		Fines (%)				
Depth	Unit	Initials									
10	c m	CSN			Sunny						
Surficial Wood Estimate:											
Contact Points						_____ X 5 = _____ %					
Surficial sediment characteristics:											
Biological:		0 %		Debris:		Trace %		Oil Sheen:		None Trace (<5%) _____ %	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		(Circle major & underline modifying) Gray Brown Black Other _____	
Major Constituent		Fine		Medium		Coarse		Gravel		(Circle major & underline modifying) Sand Silt Clay _____	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay _____	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		(Circle major & underline modifying) Gray Brown Black Other _____	
Major Constituent		Fine		Medium		Coarse		Gravel		(Circle major & underline modifying) Sand Silt Clay _____	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay _____	
Biological:		0 %		Debris:		Trace %		Oil Sheen:		None Trace (<5%) _____ %	
Comments:											
Debris: leaves, twigs											
AMEC Proj: BP2 Perimeter											
SD-PER303-0314 Initials: CSN											
QSC Form											
Date: 3 / 13 / 2014 Time: 856											

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QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number		
				3-13-14		Boeing PL2		SD-PER 303		
Coordinates						Water Depth				
North			East			Depth	Unit	Rep	Gear	
196262			1274852			12.9	f t	3	0.2 Grab	
Penetration		Unit	Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %		
Depth										
10	cm		CSM			Sunny				
Surficial sediment characteristics:										
Biological:		0 %		Debris:		Trace %		Oil Sheen: None Trace (<5%) %		
Moisture		Very Wet		Wet		Moist		Damp Dry		
Color		Light		Medium		Dark		(Circle major & underline modifying)		
								Olive Gray Brown Black Other		
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying)		
								Gravel Sand Silt Clay		
Minor Constituent with trace		Fine		Medium		Coarse				
								Gravel Sand Silt Clay		
Subsurface sediment characteristics:										
Density / Consistency										
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense Very Dense		
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff Very Stiff Hard		
Moisture		Very Wet		Wet		Moist		Damp Dry		
Color		Light		Medium		Dark		(Circle major & underline modifying)		
								Olive Gray Brown Black Other		
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying)		
								Gravel Sand Silt Clay		
Minor Constituent with trace		Fine		Medium		Coarse				
								Gravel Sand Silt Clay		
Biological:		0 %		Debris:		Trace %		Oil Sheen: None Trace (<5%) %		
Comments:										
Debris: leaves, seeds										

SD-PER304-0314

# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	3-17-14	Boeing PL2	SD-PER 304

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
196189	1275019	23.1	f t	1	0.2 Grab	845

Penetration	Unit	Initials	Sulfide	VOA	Weather	Fines (%)
15	c m	GSN			part cloudy	

Surficial Wood Estimate:

Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: trace % Debris: trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

Moisture  
Very Wet Wet Moist Damp Dry

Color  
Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

Major Constituent  
Fine Medium Coarse Gravel Sand Silt Clay

Minor Constituent with trace  
Fine Medium Coarse Gravel Sand Silt Clay

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense  
Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

Moisture  
Very Wet Wet Moist Damp Dry

Color  
Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

Major Constituent  
Fine Medium Coarse Gravel Sand Silt Clay

Minor Constituent with trace  
Fine Medium Coarse Gravel Sand Silt Clay

Biological: trace % Debris: \_\_\_\_\_ % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Comments:

Worms, leaves

AMEC Proj. BP2 Perimeter  
SD-PER304-0314 Initials: GSN  
QSC Form  
Date: 3 / 17 / 2014 Time: 845

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SD-PER305-0314

QUALITATIVE SAMPLE CHARACTERISTICS										Page <u>1</u> of <u>    </u>
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number		
				3-11-14		Boeing PL2		SD-PER 305		
Coordinates						Water Depth		Time		
North			East			Depth	Unit	Rep	Gear	
196043			1275098			15.0	f t	1	0.2 Grab	
Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %			
Depth	Unit									
10	c m	GSH			sunny					
Surficial sediment characteristics:										
Biological:		<u>0</u> %		Debris:		<u>5</u> %		Oil Sheen: <u>None</u> Trace (<5%) _____ %		
Moisture										
Very Wet		<u>Wet</u>		Moist		Damp		Dry		
Color										
Light		<u>Medium</u>		Dark		(Circle major & underline modifying)				
						Olive		Gray <u>Brown</u> Black Other _____		
Major Constituent										
<u>Fine</u>		Medium		Coarse		(Circle major & underline modifying)				
						Gravel		<u>Sand</u> Silt Clay		
Minor Constituent with trace										
<u>Fine</u>		Medium		Coarse						
						Gravel		Sand <u>Silt</u> Clay		
Subsurface sediment characteristics:										
Density / Consistency										
<u>Sand / Gravel</u>		Very Loose		Loose		Medium Dense		Dense		
								Very Dense		
<u>Silt / Clay</u>		Very Soft		<u>Soft</u>		Medium Stiff		Stiff		
								Very Stiff		
								Hard		
Moisture										
Very Wet		<u>Wet</u>		Moist		Damp		Dry		
Color										
Light		Medium		<u>Dark</u>		(Circle major & underline modifying)				
						Olive		<u>Gray</u> <u>Brown</u> Black Other _____		
Major Constituent										
<u>Fine</u>		Medium		Coarse		(Circle major & underline modifying)				
						Gravel		Sand <u>Silt</u> Clay		
Minor Constituent with trace										
<u>Fine</u>		Medium		Coarse						
						Gravel		<u>Sand</u> Silt Clay		
Biological:		<u>0</u> %		Debris:		<u>15</u> %		Oil Sheen: <u>None</u> Trace (<5%) _____ %		
Comments:										
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <u>Debris consisting of</u>  <u>leaves, twigs, wood chips</u> </div> <div style="width: 55%;">           AMEC Proj. BP2 Perimeter            SD-PER305-0314 Initials: <u>GSH</u>            QSC Form            Date: <u>3 / 11</u> /2012 Time: <u>1125</u> </div> </div>										

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SD-PER306-0314

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				3-11-14		Boeing PL2		SD-PER 306			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
196020			1275275			26.6	f t	1	0.2 Grab	1215	
Penetration			Sulfide	VOA	Weather	Surficial Wood Estimate:					
Depth	Unit	Initials				Contact Points					
10	c m	CSH			sunny	_____ X 5 = _____ %					
Surficial sediment characteristics:											
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)						%	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		Gray		Brown Black Other	
(Circle major & underline modifying)											
Major Constituent											
Fine		Medium		Coarse		Gravel		Sand		Silt Clay	
(Circle major & underline modifying)											
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		Gray		Brown Black Other	
(Circle major & underline modifying)											
Major Constituent											
Fine		Medium		Coarse		Gravel		Sand		Silt Clay	
(Circle major & underline modifying)											
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt Clay	
Biological:		Trace		%		Debris:		10		%	
Oil Sheen:		None		Trace (<5%)						%	
Comments:											
AMEC Proj. BP2 Perimeter											
SD-PER306-0314 Initials: CSH											
QSC Form											
Date: 3/11/2012 Time: 1215											
Biological: clam shells, starry flounder											
Debris: leaves, twigs											

## Page \_\_\_\_ of \_\_\_\_

**AMEC**, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000



## Page \_\_\_\_ of \_\_\_\_

Comments:

Biological worms

Debris: shells, twigs

SD-PER307-0314

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				3-11-14		Boeing PL2		SD-PER 307			
Coordinates						Water Depth				Time	
North			1275272 East			Depth	Unit	Rep	Gear		
195870			1275212			17.6	f t	1	0.2 Grab	1433	
Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %				
Depth	Unit										
12	c m	GSN			Sunny						
Surficial sediment characteristics:											
Biological:		0 %		Debris:		Trace %		Oil Sheen:		None Trace (<5%) %	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		(Circle major & underline modifying)		Olive Gray Brown Black Other	
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying)		Gravel Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse				Gravel Sand Silt Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		(Circle major & underline modifying)		Olive Gray Brown Black Other	
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying)		Gravel Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse				Gravel Sand Silt Clay	
Biological:		0 %		Debris:		5 %		Oil Sheen:		None Trace (<5%) %	
Comments:											
Debris: leaves, twigs.											
AMEC Proj. BP2 Perimeter											
SD-PER307-0314 Initials: GSN											
QSC Form											
Date: 3 / 11 / 2012 Time: 1433											

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				3-11-14		Boeing PL2		SD-PER 307			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
195868			1275275			17.0	f t	2	0.2 Grab	1501	
Penetration						Surficial Wood Estimate:					
Depth	Unit	Initials	Sulfide	VOA	Weather	Contact Points					
12	c m	CSN			sunny	_____ X 5 = _____ %					
Surficial sediment characteristics:											
Biological:		0 %		Debris:		Trace 0 %		Oil Sheen:		None Trace (<5%) _____ %	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		(Circle major & underline modifying) Gray Brown Black Other _____	
Major Constituent		Fine		Medium		Coarse		Gravel		(Circle major & underline modifying) Sand Silt Clay _____	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay _____	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		(Circle major & underline modifying) Gray Brown Black Other _____	
Major Constituent		Fine		Medium		Coarse		Gravel		(Circle major & underline modifying) Sand Silt Clay _____	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay _____	
Biological:		0 %		Debris:		Trace 0 %		Oil Sheen:		None Trace (<5%) _____ %	
Comments:											
1476 - poor penetration 5 cm gravel / silty sand											
1459 water haul											
Debris - leaves, twigs											





SD-PER327-0314

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____														
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number																
				3-11-14		Boeing PL2		SD-PER 327																
Coordinates						Water Depth				Time														
North			East			Depth	Unit	Rep	Gear															
195863			1275274			14.8	f t	1	0.2 Grab	1315														
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="2">Penetration</td> <td rowspan="2">Initials</td> <td rowspan="2">Sulfide</td> <td rowspan="2">VOA</td> <td rowspan="2">Weather</td> <td rowspan="2">Fines (%)</td> </tr> <tr> <td>Depth</td> <td>Unit</td> </tr> <tr> <td>10</td> <td>c m</td> <td>CJ</td> <td></td> <td></td> <td>Sunny</td> <td></td> </tr> </table>				Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	Depth	Unit	10	c m	CJ			Sunny		<b>Surficial Wood Estimate:</b> <b>Contact Points</b> _____ X 5 = _____ %				
Penetration		Initials	Sulfide	VOA	Weather						Fines (%)													
Depth	Unit																							
10	c m	CJ			Sunny																			
<b>Surficial sediment characteristics:</b>																								
Biological:		0 %		Debris:		Trace %		Oil Sheen:		None Trace (<5%) %														
<b>Moisture</b>		Very Wet		Wet		Moist		Damp		Dry														
<b>Color</b>		Light		Medium		Dark		Olive		(Circle major & underline modifying) Gray Brown Black Other														
<b>Major Constituent</b>		Fine		Medium		Coarse		Gravel		(Circle major & underline modifying) Sand Silt Clay														
<b>Minor Constituent with trace</b>		Fine		Medium		Coarse		Gravel		Sand Silt Clay														
<b>Subsurface sediment characteristics:</b>																								
<b>Density / Consistency</b>																								
<u>Sand / Gravel -</u>		Very Loose		Loose		Medium Dense		Dense		Very Dense														
<u>Silt / Clay -</u>		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard														
<b>Moisture</b>		Very Wet		Wet		Moist		Damp		Dry														
<b>Color</b>		Light		Medium		Dark		Olive		(Circle major & underline modifying) Gray Brown Black Other														
<b>Major Constituent</b>		Fine		Medium		Coarse		Gravel		(Circle major & underline modifying) Sand Silt Clay														
<b>Minor Constituent with trace</b>		Fine		Medium		Coarse		Gravel		Sand Silt Clay														
Biological:		0 %		Debris:		Trace %		Oil Sheen:		None Trace (<5%) %														
<b>Comments:</b>																								
Debris: twigs																								
AMEC Proj. BP2 Perimeter																								
SD-PER327-0314 Initials: CJN																								
QSC Form																								
Date: 3/11/2012 Time: 1315																								

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				3-11-14		Boeing PL2		SD-PER 327			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
195 865			127 5274			14.8	f t	2	0.2 Grab	13 28	
Penetration		Unit	Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %			
Depth											
10	c m		LSM			sunny					
Surficial sediment characteristics:											
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		Trace (<5%)						%	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		Gray		Brown	
(Circle major & underline modifying)											
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
(Circle major & underline modifying)											
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
								Silt		Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff	
										Hard	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		Gray		Brown	
(Circle major & underline modifying)											
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
(Circle major & underline modifying)											
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
								Silt		Clay	
Biological:		Trace		%		Debris:		S		%	
Oil Sheen:		None		Trace (<5%)						%	
Comments:											
Biological: worms, shrimp											
Debris: leaves, twigs											



## Page of

**AMEC**, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000

SD-PER308-0314

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				3-11-14		Boeing PL2		SD-PER 308			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
195834			1275487				f t	1	0.2 Grab	1544	
Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %				
Depth	Unit										
10	c m	GSN			Sunny						
Surficial sediment characteristics:											
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		%		Trace (<5%)				%	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray	
								Brown		Black	
								Other			
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
								Silt		Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
								Silt		Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff	
										Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray	
								Brown		Black	
								Other			
Major Constituent		Fine		Medium		Coarse		Gravel		Sand	
								Silt		Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
								Silt		Clay	
Biological:		Trace		%		Debris:		Trace		%	
Oil Sheen:		None		%		Trace (<5%)				%	
Comments:											
current too strong to get water depth											
AMEC Proj. BP2 Perimeter SD-PER308-0314 Initials: GSN QSC Form Date: 3/11/2012 Time: 1544											
Biological: Worms Debris: leaves, twigs											

# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	3-11-14	Boeing PL2	SD-PER 308

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
195834	1275481	27.5	f t	2	0.2 Grab	1556

Penetration	Unit	Initials	Sulfide	VOA	Weather	Fines (%)
Depth						
10	c m	CSN			sunny	

Surficial Wood Estimate:

Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: 0 % Debris: 5 % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

## Moisture

Very Wet Wet Moist Damp Dry

## Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

## Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

(Circle major & underline modifying)

## Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

## Subsurface sediment characteristics:

## Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense  
Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

## Moisture

Very Wet Wet Moist Damp Dry

## Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

## Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

(Circle major & underline modifying)

## Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

Biological: Trace % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

## Comments:

Biological: worms  
 Debris: fungi, leaves  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



## Page \_\_\_\_ of \_\_\_\_

Amin\Field Forms\QSC

SD-PER309-0314

# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	3-21-14	Boeing PL2	SD-PER 309

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
195653	1275552	14.6	f t	1	0.2 Grab	1248

Penetration	Depth	Unit	Initials	Sulfide	VOA	Weather	Fines (%)
	15	c m	61 m			part cloudy	

Surficial Wood Estimate:

Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: 0 % Debris: 5 % Oil Sheen: None Trace (<5%) 0 %

Moisture  
Very Wet Wet Moist Damp Dry

Color  
Light Medium Dark Olive Gray Brown Black Other

Major Constituent  
Fine Medium Coarse Gravel Sand Silt Clay

Minor Constituent with trace  
Fine Medium Coarse Gravel Sand Silt Clay

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense  
Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

Moisture  
Very Wet Wet Moist Damp Dry

Color  
Light Medium Dark Olive Gray Brown Black Other

Major Constituent  
Fine Medium Coarse Gravel Sand Silt Clay

Minor Constituent with trace  
Fine Medium Coarse Gravel Sand Silt Clay

Biological: 0 % Debris: 15 % Oil Sheen: None Trace (<5%) 2 %

### Comments:

Surface Debris: shell fragments

Sub Debris: organics - wood

AMEC Proj. BP2 Perimeter

SD-PER309-0314

Initials: sm

QSC Form

Date: 3 / 21 / 2014 Time: 1248



# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	3-21-14	Boeing PL2	SD-PER 309

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
195659	1275549	13.8	f t	2	0.2 Grab	1303

Penetration	Unit	Initials	Sulfide	VOA	Weather	Fines (%)
Depth						
14	c m	cm			part cloudy	

Surficial Wood Estimate:

Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: 55 % Debris: 55 % Oil Sheen: None Trace (<5%) 0 %

Moisture

Very Wet Wet Moist Damp Dry

Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay

(Circle major & underline modifying)

Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay organics

## Subsurface sediment characteristics:

Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense

Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

Moisture

Very Wet Wet Moist Damp Dry

Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay

(Circle major & underline modifying)

Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay organics

Biological: 0 % Debris: 55 % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

Comments:

Surface Bio: mussel shell

Surface Debris: wood

Gut Debris: wood + plant stems

Note: some sediment leakage from bottom of sampler  
sample collected from undisturbed area



QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				3-21-14		Boeing PL2		SD-PER 309			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
195659			1275542			13.3	f t	3	0.2 Grab	1316	
Penetration		Unit	Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %			
Depth											
15	c m		SM			part cloudy					
Surficial sediment characteristics:											
Biological:		55 %		Debris:		55 %		Oil Sheen:		None Trace (<5%) 0 %	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray Brown Black Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray Brown Black Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Biological:		0 %		Debris:		10 %		Oil Sheen:		None Trace (<5%) 0 %	
Comments:											
Surface Bio: flounder fish, shrimp											
Surface Debris: wood, leaves											
Sub Debris: plant stems, leaves, wood											

SD-PER310-0314

# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	3-12-14	Boeing PL2	SD-PER 310

Coordinates		Water Depth				Time
North	East	Depth	Unit	Rep	Gear	
195596	1275761	23.9	f t	1	0.2 Grab	1425

Penetration						
Depth	Unit	Initials	Sulfide	VOA	Weather	Fines (%)
10	c m	GSN			sunny	

Surficial Wood Estimate:

Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: 0 % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse

(Circle major & underline modifying)

Gravel Sand Silt Clay

### Minor Constituent with trace

Fine Medium Coarse

Gravel Sand Silt Clay

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense

Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse

(Circle major & underline modifying)

Gravel Sand Silt Clay

### Minor Constituent with trace

Fine Medium Coarse

Gravel Sand Silt Clay

Biological: Trace % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Comments:

Biological: worms

Debris: leaves, twigs

AMEC Proj. BP2 Perimeter

SD-PER310-0314 Initials: GSN

QSC Form

Date: 3/12/2012 Time: 1425



QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				3-12-14		Boeing PL2		SD-PER 310			
Coordinates						Water Depth					
North			East			Depth	Unit	Rep	Gear		
195586			1275768			24.4	f t	3	0.2 Grab		
Penetration			Sulfide	VOA	Weather	Surficial Wood Estimate:					
Depth	Unit	Initials				Contact Points					
10	c m	CSM			Sunny	_____ X 5 = _____ %					
Surficial sediment characteristics:											
Biological:		0 %		Debris:		Trace %		Oil Sheen:		None Trace (<5%) %	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		(Circle major & underline modifying)	
								Gray		Brown	
Major Constituent		Fine		Medium		Coarse		Gravel		(Circle major & underline modifying)	
								Sand		Silt	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
								Silt		Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		(Circle major & underline modifying)	
								Gray		Brown	
Major Constituent		Fine		Medium		Coarse		Gravel		(Circle major & underline modifying)	
								Sand		Silt	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand	
								Silt		Clay	
Biological:		Trace %		Debris:		Trace %		Oil Sheen:		None Trace (<5%) %	
Comments:											
at night 1 grab did not close											
Biological: worms											
Gravel: twigs, leaves											



QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number		
				3-12-14		Boeing PL2		SD-PER 310		
Coordinates						Water Depth			Time	
North			East			Depth	Unit	Rep	Gear	
195590			1275763			24.4	f t	3	0.2 Grab	
Penetration			Sulfide	VOA	Weather	Surficial Wood Estimate:				
Depth	Unit	Initials				Contact Points				
10	c m	com			sunny	_____ X 5 = _____ %				
Surficial sediment characteristics:										
Biological:		Trace		%		Debris:		Trace		
Oil Sheen:		None		Trace (<5%)						
Moisture		Very Wet		Wet		Moist		Damp		
Color		Light		Medium		Dark		(Circle major & underline modifying)		
								Olive Gray Brown Black Other		
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying)		
								Gravel Sand Silt Clay		
Minor Constituent with trace		Fine		Medium		Coarse				
								Gravel Sand Silt Clay		
Subsurface sediment characteristics:										
Density / Consistency										
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		
Moisture		Very Wet		Wet		Moist		Damp		
Color		Light		Medium		Dark		(Circle major & underline modifying)		
								Olive Gray Brown Black Other		
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying)		
								Gravel Sand Silt Clay		
Minor Constituent with trace		Fine		Medium		Coarse				
								Gravel Sand Silt Clay		
Biological:		Trace		%		Debris:		Trace		
Oil Sheen:		None		Trace (<5%)						
Comments:										
Delong = bugs snake										
Biological V. worms, prickly wale										

SD-PER311-0314

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				3-12-14		Boeing PL2		SD-PER 311			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
195400			1275684			22.8	f t	1	0.2 Grab	1513	
Penetration			Sulfide	VOA	Weather		Fines (%)		<b>Surficial Wood Estimate:</b> <b>Contact Points</b> _____ X 5 = _____ %		
Depth	Unit	Initials									
10	cm	65M			sunny						
<b>Surficial sediment characteristics:</b> Biological: <u>0</u> %    Debris: <u>Trace</u> %    Oil Sheen: <u>None</u> Trace (<5%) _____ % Moisture Very Wet    Wet    Moist    Damp    Dry Color Light <u>Medium</u> Dark    Olive    Gray <u>Brown</u> Black    Other _____ Major Constituent <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay Minor Constituent with trace <u>Fine</u> Medium    Coarse    Gravel <u>Sand</u> Silt    Clay											
<b>Subsurface sediment characteristics:</b> Density / Consistency <u>Sand / Gravel</u> -    Very Loose    Loose    Medium Dense    Dense    Very Dense <u>Silt / Clay</u> -    Very Soft <u>Soft</u> Medium Stiff    Stiff    Very Stiff    Hard Moisture Very Wet <u>Wet</u> Moist    Damp    Dry Color Light    Medium <u>Dark</u> Olive <u>Gray</u> Brown    Black    Other _____ Major Constituent <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay Minor Constituent with trace <u>Fine</u> Medium    Coarse    Gravel <u>Sand</u> Silt    Clay Biological: <u>Trace</u> %    Debris: <u>Trace</u> %    Oil Sheen: <u>None</u> Trace (<5%) _____ %											
<b>Comments:</b> <u>1509 water haul</u> <u>Biological: worms</u> <u>Debris: leaves, twigs</u> AMEC Proj. BP2 Perimeter SD-PER311-0314 Initials: <u>GJM</u> QSC Form Date: <u>3/12/2014</u> Time: <u>1513</u>											

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**AMEC**, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000





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QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number		
				3-12-14		Boeing PL2		SD-PER 313		
Coordinates						Water Depth				
North			East			Depth	Unit	Rep	Gear	
195994			1275089			10.2	f t	2	0.2 Grab	
Penetration		Sulfide		VOA		Weather		Fines (%)		
Depth	Unit	Initials								
12	c m	GSR					Sunny			
Surficial Wood Estimate:										
Contact Points										
						X 5 = _____ %				
Surficial sediment characteristics:										
Biological:		0 %		Debris:		Trace %		Oil Sheen: <u>None</u> Trace (<5%) _____ %		
Moisture										
Very Wet		<u>Wet</u>		Moist		Damp		Dry		
Color										
Light		<u>Medium</u>		Dark		(Circle major & underline modifying)				
						Olive <u>Gray</u> <u>Brown</u> Black Other _____				
Major Constituent										
<u>Fine</u>		Medium		Coarse		(Circle major & underline modifying)				
						Gravel Sand <u>Silt</u> Clay _____				
Minor Constituent with trace										
<u>Fine</u>		Medium		Coarse		Gravel <u>Sand</u> Silt Clay _____				
Subsurface sediment characteristics:										
Density / Consistency										
<u>Sand / Gravel -</u>		Very Loose		Loose		Medium Dense		Dense		
								Very Dense		
<u>Silt / Clay -</u>		Very Soft		<u>Soft</u>		Medium Stiff		Stiff		
								Very Stiff		
								Hard		
Moisture										
Very Wet		<u>Wet</u>		Moist		Damp		Dry		
Color										
Light		Medium		<u>Dark</u>		(Circle major & underline modifying)				
						Olive <u>Gray</u> Brown Black Other _____				
Major Constituent										
<u>Fine</u>		Medium		Coarse		(Circle major & underline modifying)				
						Gravel Sand <u>Silt</u> Clay _____				
Minor Constituent with trace										
<u>Fine</u>		Medium		Coarse		Gravel Sand Silt Clay _____				
Biological:		0 %		Debris:		Trace %		Oil Sheen: <u>None</u> Trace (<5%) _____ %		
Comments:										
Debris: leaves, twigs.										



QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				3-12-14		Boeing PL2		SD-PER 313			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
195991			1275093			9.1	f t	3	0.2 Grab	1011	
Penetration		Unit	Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %			
Depth											
12	c m		cm			suny					
Surficial sediment characteristics:											
Biological:		0 %		Debris:		Trace %		Oil Sheen:		None Trace (<5%) %	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		(Circle major & underline modifying)		Olive Gray Brown Black Other	
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying)		Gravel Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse				Gravel Sand Silt Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		(Circle major & underline modifying)		Olive Gray Brown Black Other	
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying)		Gravel Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse				Gravel Sand Silt Clay	
Biological:		0 %		Debris:		Trace %		Oil Sheen:		None Trace (<5%) %	
Comments:											
Debris: leaves, twigs											

SD-PER401-0314

# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	3-21-14	Boeing PL2	SD-PER 401

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
194404	1276139	18.1	f t	1	0.2 Grab	913

Penetration	Depth	Unit	Initials	Sulfide	VOA	Weather	Fines (%)
	c	m	GSN			part down	

Surficial Wood Estimate:

Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: 5% % Debris: \_\_\_\_\_ % Oil Sheen: None Trace (<5%) 0 %

Moisture  
Very Wet Wet Moist Damp Dry

Color  
Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_  
(Circle major & underline modifying)

Major Constituent  
Fine Medium Coarse Gravel Sand Silt Clay  
(Circle major & underline modifying)

Minor Constituent with trace  
Fine Medium Coarse Gravel Sand Silt Clay

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense  
Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

Moisture  
Very Wet Wet Moist Damp Dry

Color  
Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_  
(Circle major & underline modifying)

Major Constituent  
Fine Medium Coarse Gravel Sand Silt Clay  
(Circle major & underline modifying)

Minor Constituent with trace  
Fine Medium Coarse Gravel Sand Silt Clay

Biological: \_\_\_\_\_ % Debris: <5% % Oil Sheen: None Trace (<5%) 0 %

### Comments:

Sub: worm tubes  
Debris: small stick

AMEC Proj. BP2 Perimeter

SD-PER401-0314 Initials: GSN

QSC Form

Date: 3/21 /2014 Time: 913

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				3-21-14		Boeing PL2		SD-PER 401			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
194405			1276142			17.4	f t	2	0.2 Grab	933	
Penetration		Unit	Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %			
Depth											
12	c m		GSM			part cloudy					
Surficial sediment characteristics:											
Biological:		55		%		Debris:		55		%	
Oil Sheen:		None		Trace (<5%)		0		%			
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		(Circle major & underline modifying)		Gray Brown Black Other	
Major Constituent											
(Circle major & underline modifying)		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Minor Constituent with trace											
(Circle major & underline modifying)		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		(Circle major & underline modifying)		Gray Brown Black Other	
Major Constituent											
(Circle major & underline modifying)		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Minor Constituent with trace											
(Circle major & underline modifying)		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Biological:		55		%		Debris:		55		%	
Oil Sheen:		None		Trace (<5%)				%			
Comments:											
Dredge; Worm tubes											
Debris; Shell											



## Page \_\_\_\_ of \_\_\_\_

Amin\Field Forms\QSC

SD-PER402-0314

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				3-21-14		Boeing PL2		SD-PER 402			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
194 316			127 599 4			21.7	f t	1	0.2 Grab	1023	
Penetration						Surficial Wood Estimate:					
Depth	Unit	Initials	Sulfide	VOA	Weather	Contact Points					
10	c m	CSM			partially	_____ X 5 = _____ %					
Surficial sediment characteristics:											
Biological:		CS		%		Debris:		CS		%	
Oil Sheen:		None		Trace (<5%)		0		%			
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		Gray		Brown	
										Black	
										Other	
Major Constituent											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff	
										Hard	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		Gray		Brown	
										Black	
										Other	
Major Constituent											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt	
										Clay	
Biological:		0		%		Debris:		CS		%	
Oil Sheen:		None		Trace (<5%)		0		%			
Comments:											
Bio: Shrimp											
Debris: Shell, wood											
AMEC Proj. BP2 Perimeter											
SD-PER402-0314 Initials: CSM											
QSC Form											
Date: 3/21/2014 Time: 1023											



# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	3-21-14	Boeing PL2	SD-PER 402

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
194314	1275995	21.3	f t	2	0.2 Grab	1038

Penetration	Depth	Unit	Initials	Sulfide	VOA	Weather	Fines (%)
	16	cm	SM			p-A cloudy	

Surficial Wood Estimate:

Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: <5 % Debris: <5 % Oil Sheen: None Trace (<5%) 0 %

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense  
Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay

Biological: 0 % Debris: <5 % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Comments:

bio: shrimp

Debris: leaf, wood stems



QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				3-21-14		Boeing PL2		SD-PER 402			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
194315			1275987			20.9	f t	3	0.2 Grab	1053	
Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	<b>Surficial Wood Estimate:</b> <b>Contact Points</b> _____ X 5 = _____ %				
Depth	Unit										
16	c m	GJM			part downy						
<b>Surficial sediment characteristics:</b> Biological: <u>0</u> %    Debris: <u>0</u> %    Oil Sheen: None    Trace (<5%) <u>0</u> % Moisture: <u>Very Wet</u> Wet    Moist    Damp    Dry Color: <u>Light</u> <u>Medium</u> Dark <u>Olive</u> Gray <u>Brown</u> Black    Other _____ Major Constituent: <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay _____ Minor Constituent with trace: <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay _____											
<b>Subsurface sediment characteristics:</b> Density / Consistency Sand / Gravel -    Very Loose    Loose    Medium Dense    Dense    Very Dense Silt / Clay - <u>Very Soft</u> Soft    Medium Stiff    Stiff    Very Stiff    Hard Moisture: <u>Very Wet</u> Wet    Moist    Damp    Dry Color: <u>Light</u> Medium <u>Dark</u> Olive <u>Gray</u> Brown <u>Black</u> Other _____ Major Constituent: <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay _____ Minor Constituent with trace: <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay _____ Biological: <u>0</u> %    Debris: <u>55</u> %    Oil Sheen: None    Trace (<5%) <u>0</u> %											
<b>Comments:</b> <u>Debris: plant stems</u> _____ _____ _____ _____ _____ _____											

SD-PER403-0314

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QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				3-24-14		Boeing PL2		SD-PER 403			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
194312			1276097			228	f t	2	0.2 Grab	1101	
Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %				
Depth	Unit										
15	c m	GIN			Sunny						
Surficial sediment characteristics:											
Biological:		0 %		Debris:		Trace %		Oil Sheen:		None Trace (<5%) %	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray Brown Black Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray Brown Black Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Biological:		Trace %		Debris:		Trace %		Oil Sheen:		None Trace (<5%) %	
Comments:											
Biological: worms											
Debris: twigs											



# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	3-24-14	Boeing PL2	SD-PER 403

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
194313	1276085	22.8	f t	3	0.2 Grab	1115

Penetration	Depth	Unit	Initials	Sulfide	VOA	Weather	Fines (%)
	10	cm	63m			sandy	

Surficial Wood Estimate:

Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: 0 % Debris: 0 % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense  
Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay

Biological: Trace % Debris: 0 % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Comments:

Biological: worms

SD-PER404-0314

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				3-21-14		Boeing PL2		SD-PER 404			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
194226			1275943			12.2	f t	1	0.2 Grab	11 11	
Penetration			Sulfide	VOA	Weather	Surficial Wood Estimate:					
Depth	Unit	Initials				Contact Points					
13	c m	Gsn			partially	_____ X 5 = _____ %					
Surficial sediment characteristics:											
Biological:		20		%		Debris:		0		%	
Oil Sheen:		None		Trace (<5%)		0				%	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		(Circle major & underline modifying)			
								Olive		Gray	
								Brown		Black	
								Other			
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying)			
								Gravel		Sand	
								Silt		Clay	
Minor Constituent with trace		Fine		Medium		Coarse					
								Gravel		Sand	
								Silt		Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff	
										Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		(Circle major & underline modifying)			
								Olive		Gray	
								Brown		Black	
								Other			
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying)			
								Gravel		Sand	
								Silt		Clay	
Minor Constituent with trace		Fine		Medium		Coarse					
								Gravel		Sand	
								Silt		Clay	
Biological:		55		%		Debris:		55		%	
Oil Sheen:		None		Trace (<5%)		0				%	
Comments:											
Surface Bio: Worm tubes											
Subsurface Bio: Worm - centipede											
Subsurface debris: stems - plant											
AMEC Proj. BP2 Perimeter											
SD-PER404-0314 Initials: Gsn											
QSC Form											
Date: 3/21/2014 Time: 11 11											



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QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				3-21-14		Boeing PL2		SD-PER 404			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
194227			1275945			11.0	f t	3	0.2 Grab	1143	
Penetration			Sulfide	VOA	Weather	Fines (%)					
Depth	Unit	Initials									
14	c m	GSM			part cloudy						
Surficial Wood Estimate:											
Contact Points						_____ X 5 = _____ %					
Surficial sediment characteristics:											
Biological:		55 %		Debris:		55 %		Oil Sheen:		None Trace (<5%) 0 %	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		Gray		Brown Black Other	
(Circle major & underline modifying)											
Major Constituent											
Fine		Medium		Coarse		Gravel		Sand		Silt Clay	
(Circle major & underline modifying)											
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color											
Light		Medium		Dark		Olive		Gray		Brown Black Other	
(Circle major & underline modifying)											
Major Constituent											
Fine		Medium		Coarse		Gravel		Sand		Silt Clay	
(Circle major & underline modifying)											
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt Clay	
Biological:		0 %		Debris:		55 %		Oil Sheen:		None Trace (<5%) 0 %	
Comments:											
Surface Bio: worm tubes											
Surface debris: wood stems											
Sub Bio:											
Sub debris: plant stems											

SD-PER405-0314

# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	3-24-14	Boeing PL2	SD-PER 405

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
194233	1276042	23.0	f t	1	0.2 Grab	1134

Penetration	Depth	Unit	Initials	Sulfide	VOA	Weather	Fines (%)
	14	c m	GSN			Sunny	

Surficial Wood Estimate:

Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: 0 % Debris: 5 % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense  
Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay

Biological: Trace % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Comments:

Biological: worms  
 Debris: leaves

AMEC Proj. BP2 Perimeter

SD-PER405-0314 Initials: GSN

QSC Form

Date: 3 / 24 / 2014 Time: 1134

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SD-PER406-0314

# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy) 3-29-14	Project Location Boeing PL2	Sample Identification Number SD-PER 406
------------------	-------------------------------	--------------------------------	---

Coordinates		Water Depth		Rep	Gear	Time
North 194232	East 1276149	Depth 22.0	Unit f t			

Penetration	Depth	Unit	Initials	Sulfide	VOA	Weather	Fines (%)
	110	c m	GSN			sunny	

Surficial Wood Estimate:

Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: Trace % Debris: 5 % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense

Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay \_\_\_\_\_

Biological: Trace % Debris: Trace % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Comments:

Biological: shrimp, worms

Debris: twigs, shells

AMEC Proj. BP2 Perimeter

SD-PER406-0314 Initials: GSN

QSC Form

Date: 3/24 /2014 Time: 1248

AMEC, 3500 188th St. SW, Suite 601, Lynnwood, WA

(206) 921-4000

Amin/Field Forms/OSC

## Page \_\_\_\_ of \_\_\_\_

**AMEC**, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000



QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				3-24-14		Boeing PL2		SD-PER 496			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
194235			1276150			19.4	f	3	0.2 Grab	1315	
Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %				
Depth	Unit										
3	c m	cm			sunny						
Surficial sediment characteristics:											
Biological:		0 %		Debris:		Trace %		Oil Sheen:		None Trace (<5%) %	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		(Circle major & underline modifying)		Olive Gray Brown Black Other	
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying)		Gravel Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse				Gravel Sand Silt Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		(Circle major & underline modifying)		Olive Gray Brown Black Other	
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying)		Gravel Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse				Gravel Sand Silt Clay	
Biological:		Trace %		Debris:		Trace %		Oil Sheen:		None Trace (<5%) %	
Comments:											
Biological: worms											
Debris: twigs											

SD-PER426-0314

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				4-26-14		Boeing PL2		SD-PER 426			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
194226			1276142			21.0	f t	1	0.2 Grab	1329	
Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %				
Depth	Unit										
13	c m	GSN			sunny						
Surficial sediment characteristics:											
Biological:		0 %		Debris:		Trace %		Oil Sheen:		None Trace (<5%) %	
Moisture Very Wet    Wet    Moist    Damp    Dry											
Color Light <u>Medium</u> Dark    (Circle major & underline modifying) Olive    Gray <u>Brown</u> Black    Other _____											
Major Constituent <u>Fine</u> Medium    Coarse    (Circle major & underline modifying) Gravel    Sand <u>Silt</u> Clay _____											
Minor Constituent with trace <u>Fine</u> Medium    Coarse    Gravel <u>Sand</u> Silt    Clay _____											
Subsurface sediment characteristics:											
Density / Consistency											
<u>Sand / Gravel -</u>		Very Loose		Loose		Medium Dense		Dense		Very Dense	
<u>Silt / Clay -</u>		Very Soft		<u>Soft</u>		Medium Stiff		Stiff		Very Stiff    Hard	
Moisture Very Wet <u>Wet</u> Moist    Damp    Dry											
Color Light    Medium <u>Dark</u> (Circle major & underline modifying) Olive <u>Gray</u> Brown    Black    Other _____											
Major Constituent <u>Fine</u> Medium    Coarse    (Circle major & underline modifying) Gravel    Sand <u>Silt</u> Clay _____											
Minor Constituent with trace <u>Fine</u> Medium    Coarse    Gravel    Sand    Silt    Clay _____											
Biological:		Trace %		Debris:		Trace %		Oil Sheen:		None Trace (<5%) %	
Comments: <u>Biological: worms</u> <u>Debris: twigs</u>											
AMEC Proj. BP2 Perimeter SD-PER426-0314    Initials: <u>GSN</u>											
QSC Form											
Date: <u>3/24</u> /2014 Time: <u>1329</u>											

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number		
				4-26-14		Boeing PL2		SD-PER 426		
Coordinates						Water Depth			Time	
North			East			Depth	Unit	Rep	Gear	
194232			1276147			18.5	f t	2	0.2 Grab	
Penetration			Sulfide	VOA	Weather	Surficial Wood Estimate:				
Depth	Unit	Initials				Contact Points				
13	c m	65m			sunny	_____ X 5 = _____ %				
Surficial sediment characteristics:										
Biological:		0 %		Debris:		Trace %		Oil Sheen: (None) Trace (<5%) _____ %		
Moisture										
Very Wet		(Wet)		Moist		Damp		Dry		
Color										
Light		(Medium)		Dark		(Circle major & underline modifying)				
						Olive		Gray (Brown) Black Other _____		
Major Constituent										
(Fine)		Medium		Coarse		(Circle major & underline modifying)				
						Gravel		Sand Silt Clay _____		
Minor Constituent with trace										
(Fine)		Medium		Coarse						
						Gravel		Sand Silt Clay _____		
Subsurface sediment characteristics:										
Density / Consistency										
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense Very Dense		
Silt / Clay -		Very Soft		(Soft)		Medium Stiff		Stiff Very Stiff Hard		
Moisture										
Very Wet		(Wet)		Moist		Damp		Dry		
Color										
Light		Medium		(Dark)		(Circle major & underline modifying)				
						Olive		(Gray) Brown Black Other _____		
Major Constituent										
(Fine)		Medium		Coarse		(Circle major & underline modifying)				
						Gravel		Sand (Silt) Clay _____		
Minor Constituent with trace										
(Fine)		Medium		Coarse						
						Gravel		Sand Silt Clay _____		
Biological:		Trace %		Debris:		0 %		Oil Sheen: (None) Trace (<5%) _____ %		
Comments:										
Biological: worms										
Debris: twigs										



## Page of

**AMEC**, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000

# GRAB SAMPLE CHAIN OF CUSTODY FORMS

MARCH 2014

# CHAIN OF CUSTODY

COC Number 050

Recorded by: GSN

Checked by: \_\_\_\_\_

Analysis Containers			
SMS Metals (As, Cd, Cr, Cu, Pb, Hg, Ag, Zn)	TOC, and PCBs (by Aroclor)	Archive	

AMEC Proj. BP2 Perimeter

SD-PER305-0314 Initials: GSN

COC Form

Date: 3/11/2012 Time: 1125

Date:				Number of containers
Time:	1			1

AMEC Proj. BP2 Perimeter

SD-PER306-0314 Initials: GSN

COC Form

Date: 3/11/2012 Time: 1215

Date:				Number of containers
Time:	1			1

AMEC Proj. BP2 Perimeter

SD-PER327-0314 Initials: GSN

COC Form

Date: 3/11/2012 Time: 1315

Date:				Number of containers
Time:	1			1

AMEC Proj. BP2 Perimeter

SD-PER307-0314 Initials: GSN

COC Form

Date: 3/11/2012 Time: 1430

Date:				Number of containers
Time:	1			1

AMEC Proj. BP2 Perimeter

SD-PER308-0314 Initials: GSN

COC Form

Date: 3/11/2012 Time: 1544

Date:				Number of containers
Time:	1			1

Place Sample ID Label Here  
or Write ID Number Here

Date:				Number of containers
Time:				

Place Sample ID Label Here  
or Write ID Number Here

Date:				Number of containers
Time:				

## Laboratory Sample Receipt

ARI Project Manager—Kelly Boltem  
AMEC Project Manager—Cliff Whitmus (cliff.whitmus@amec.com ph 425-921-4023)  
AMEC Laboratory Coordinator—Crystal Neirby  
(crystal.neirby@amec.com ph 206-838-8469)

Sediment samples are unhomogenized. Samples must be thoroughly homogenized before analysis.

## Relinquished By

Name: Gary Miller

Date: 3-12-12

Time: 1652

## Received By

Name: John Miller

Date: 3/12/12

Time: 1652



**AMEC**

3500 188th St. SW, Suite 601  
Lynnwood, WA 98037  
(425) 921-4000

**CHAIN OF CUSTODY**

AMEC Proj. BP2 Perimeter  
COC Number 051

Analysis Containers		
SMS Metals (As, Cd, Cr, Cu, Pb, Hg, Ag, Zn)	TOC, and PCBs (by Aroclor)	Archive

Recorded by:                     

Checked by:                     

AMEC Proj. BP2 Perimeter  
SD-PER312-0314 Initials: CSM  
COC Form  
Date: 3 / 12 / 2014 Time: 858

AMEC Proj. BP2 Perimeter  
SD-PER313-0314 Initials: CSM  
COC Form  
Date: 3 / 2 / 2014 Time: 948

AMEC Proj. BP2 Perimeter  
SD-PER101-0314 Initials: CSM  
COC Form  
Date: 3 / 12 / 2014 Time: 1108

AMEC Proj. BP2 Perimeter  
SD-PER103-0314 Initials: CSM  
COC Form  
Date: 3 / 12 / 2014 Time: 1222

AMEC Proj. BP2 Perimeter  
SD-PER104-0314 Initials: CSM  
COC Form  
Date: 3 / 12 / 2014 Time: 1303

AMEC Proj. BP2 Perimeter  
SD-PER310-0314 Initials: CSM  
COC Form  
Date: 3 / 12 / 2014 Time: 1435

AMEC Proj. BP2 Perimeter  
SD-PER311-0314 Initials: CSM  
COC Form  
Date: 3 / 12 / 2014 Time: 1513

Date:				Number of containers
Time:	1			1
Date:				Number of containers
Time:	1			1
Date:				Number of containers
Time:	1			1
Date:				Number of containers
Time:	1			1
Date:				Number of containers
Time:	1			1
Date:				Number of containers
Time:	1			1
Date:				Number of containers
Time:	1			1

ARI Project Manager—Kelly Bottem  
AMEC Project Manager—Cliff Whitmus (cliff.whitmus@amec.com ph 425-921-4023)  
AMEC Laboratory Coordinator—Crystal Neirby (crystal.neirby@amec.com ph 206-838-8469)

Sediment samples are unhomogenized. Samples must be thoroughly homogenized before analysis.

Relinquished By	Received By
Name: <u>Cliff Whitmus</u>	Name: <u>[Signature]</u>
Date: <u>3-12-14</u>	Date: <u>3/12/14</u>
Time: <u>1652</u>	Time: <u>1652</u>



AMEC  
3500 188th St. SW, Suite 601  
Lynnwood, WA 98037  
(425) 921-4000

# CHAIN OF CUSTODY

AMEC Proj. BP2 Perimeter

COC Number 052

Analysis Containers			
SMS Metals (As, Cd, Cr, Cu, Pb, Hg, Ag, Zn)	TOC, and PCBs (by Aroclor)	Archive	

Recorded by: SSM

Checked by: \_\_\_\_\_

AMEC Proj. BP2 Perimeter  
SD-PER303-0314 Initials: SSM  
COC Form  
Date: 3/13/2014 Time: 856

AMEC Proj. BP2 Perimeter  
SD-PER302-0314 Initials: SSM  
COC Form  
Date: 3/13/2014 Time: 942

AMEC Proj. BP2 Perimeter  
SD-PER106-0314 Initials: SSM  
COC Form  
Date: 3/13/2014 Time: 1134

AMEC Proj. BP2 Perimeter  
SD-PER126-0314 Initials: SSM  
COC Form  
Date: 3/13/2014 Time: 1244

AMEC Proj. BP2 Perimeter  
SD-PER102-0314 Initials: SSM  
COC Form  
Date: 3/13/2014 Time: 1329

AMEC Proj. BP2 Perimeter  
SD-PER105-0314 Initials: SSM  
COC Form  
Date: 3/13/2014 Time: 1413

Place Sample ID Label Here  
or Write ID Number Here

Date:				Number of containers
Time:	1			1
Date:				Number of containers
Time:	1			1
Date:				Number of containers
Time:	1			1
Date:				Number of containers
Time:	1			1
Date:				Number of containers
Time:	1			1
Date:				Number of containers
Time:	1			1
Date:				Number of containers
Time:	1			1

**Laboratory Sample Receipt**

ARI Project Manager—Kelly Bottom  
AMEC Project Manager—Cliff Whitmus (cliff.whitmus@amec.com ph 425-921-4023)  
AMEC Laboratory Coordinator—Crystal Neirby (crystal.neirby@amec.com ph 206-838-8469)

Sediment samples are unhomogenized. Samples must be thoroughly homogenized before analysis.

Relinquished By	Received By
Name: <u>Chelsea Jefferson</u>	Name: <u>Taylor Streeter</u>
Date: <u>3/14/14</u>	Date: <u>3-14-14</u>
Time: <u>1626</u>	Time: <u>1626</u>

		Analysis Containers			
		SMS Metals (As, Cd, Cr, Cu, Pb, Hg, Ag, Zn)	TOC, and PCBs (by Aroclor)	Archive	
AMEC Proj. BP2 Perimeter COC Number 059					Recorded by: <u>GM</u> Checked by: _____
AMEC Proj. BP2 Perimeter SD-PER-001-0314 Initials: <u>GM</u> COC Form Date: <u>3/14</u> /2014 Time: <u>901</u>		Date:			Number of containers
		Time:	1		1
AMEC Proj. BP2 Perimeter SD-PER203-0314 Initials: <u>GM</u> COC Form Date: <u>3/14</u> /2014 Time: <u>1008</u>		Date:			Number of containers
		Time:	1		1
AMEC Proj. BP2 Perimeter SD-PER206-0314 Initials: <u>GM</u> COC Form Date: <u>3/14</u> /2014 Time: <u>1000</u>		Date:			Number of containers
		Time:	1		1
AMEC Proj. BP2 Perimeter SD-PER209-0314 Initials: <u>GM</u> COC Form Date: <u>3/14</u> /2014 Time: <u>1003</u>		Date:			Number of containers
		Time:	1		1
AMEC Proj. BP2 Perimeter SD-PER201-0314 Initials: <u>GM</u> COC Form Date: <u>3/14</u> /2014 Time: <u>1706</u>		Date:			Number of containers
		Time:	1		1
AMEC Proj. BP2 Perimeter SD-PER202-0314 Initials: <u>GM</u> COC Form Date: <u>3/14</u> /2014 Time: <u>1709</u>		Date:			Number of containers
		Time:	1		1
Place Sample ID Label Here or Write ID Number Here <div style="border: 1px solid black; height: 20px; width: 100%;"></div>		Date:			Number of containers
		Time:			

**Laboratory Sample Receipt**

ARI Project Manager—Kelly Bottem  
 AMEC Project Manager—Cliff Whitmus (cliff.whitmus@amec.com ph 425-921-4023)  
 AMEC Laboratory Coordinator—Crystal Neirby (crystal.neirby@amec.com ph. 206-838-8469)

Sediment samples are unhomogenized. Samples must be thoroughly homogenized before analysis.

Relinquished By	Transported By	Received By
Name: <u>Chelsea Jefferson</u> Date: <u>3/14/14</u> Time: <u>1626</u>	<u>GM</u>	Name: <u>Fayle Street</u> Date: <u>3.14.14</u> Time: <u>1626</u>
Name: Date: Time:		Name: Date: Time:
Name: Date: Time:		Name: Date: Time:



**AMEC**

3500 188th St. SW, Suite 601  
Lynnwood, WA 98037  
(425) 921-4000

**CHAIN OF CUSTODY**

AMEC Proj. BP2 Perimeter

COC Number 060

Recorded by: GSM

Checked by: \_\_\_\_\_

AMEC Proj. BP2 Perimeter

SD-PER304-0314 Initials: GSM

COC Form

Date: 3/17/2014 Time: 845

AMEC Proj. BP2 Perimeter

SD-PER204-0314 Initials: GSM

COC Form

Date: 3/17/2014 Time: 1015

AMEC Proj. BP2 Perimeter

SD-PER205-0314 Initials: GSM

COC Form

Date: 3/17/2014 Time: 1104

AMEC Proj. BP2 Perimeter

SD-PER207-0314 Initials: GSM

COC Form

Date: 3/17/2014 Time: 1245

AMEC Proj. BP2 Perimeter

SD-PER208-0314 Initials: GSM

COC Form

Date: 3/17/2014 Time: 1422

AMEC Proj. BP2 Perimeter

SD-PER211-0314 Initials: GSM

COC Form

Date: 3/17/2014 Time: 1508

Place Sample ID Label Here  
or Write ID Number Here

\_\_\_\_\_

Analysis Containers			
SMS Metals (As, Cd, Cr, Cu, Pb, Hg, Ag, Zn)	TOC, and PCBs (by Aroclor)	Archive	

Date:				Number of containers
Time:	1			1
Date:				Number of containers
Time:	1			1
Date:				Number of containers
Time:	1			1
Date:				Number of containers
Time:	1			1
Date:				Number of containers
Time:	1			1
Date:				Number of containers
Time:	1			1
Date:				Number of containers
Time:				

**Laboratory Sample Receipt**

ARI Project Manager—Kelly Bottem  
AMEC Project Manager—Cliff Whitmus (cliff.whitmus@amec.com ph 425-921-4023)  
AMEC Laboratory Coordinator—Crystal Neirby (crystal.neirby@amec.com ph. 206-838-8469)

Sediment samples are unhomogenized. Samples must be thoroughly homogenized before analysis.

**Relinquished By**

Name: Jennifer Bellamy  
Date: 3/17/14  
Time: 5:10 pm

**Received By**

Name: Taylor Streete  
Date: 3-17-14  
Time: 1710

AMEC Proj. BP2 Perimeter  
COC Number 061

# Analysis Containers

Recorded by: GSN

Checked by: \_\_\_\_\_

SMS Metals (As, Cd,  
Cr, Cu, Pb, Hg, Ag, Zn)  
TOC, and  
PCBs (by Aroclor)

Archive

AMEC Proj. BP2 Perimeter

SD-PER401-0314 Initials: GSN

COC Form

Date: 3/21/2014 Time: 9:13

AMEC Proj. BP2 Perimeter

SD-PER402-0314 Initials: GSN

COC Form

Date: 3/21/2014 Time: 9:23

AMEC Proj. BP2 Perimeter

SD-PER404-0314 Initials: GSN

COC Form

Date: 3/21/2014 Time: 11:11

AMEC Proj. BP2 Perimeter

SD-PER309-0314 Initials: GSN

COC Form

Date: 3/21/2014 Time: 12:42

AMEC Proj. BP2 Perimeter

SD-PER210-0314 Initials: GSN

COC Form

Date: 3/21/2014 Time: 14:20

AMEC Proj. BP2 Perimeter

SD-PER230-0314 Initials: GSN

COC Form

Date: 3/21/2014 Time: 15:07

Place Sample ID Label Here  
or Write ID Number Here

Date:				Number of containers
Time:	1			1
Date:				Number of containers
Time:	1			1
Date:				Number of containers
Time:	1			1
Date:				Number of containers
Time:	1			1
Date:				Number of containers
Time:	1			1
Date:				Number of containers
Time:	1			1
Date:				Number of containers
Time:				

## Laboratory Sample Receipt

ARI Project Manager—Kelly Bottem  
AMEC Project Manager—Cliff Whitmus (cliff.whitmus@amec.com ph 425-921-4023)  
AMEC Laboratory Coordinator—Crystal Neirby (crystal.neirby@amec.com ph 206-838-8469)

Sediment samples are unhomogenized. Samples must be thoroughly homogenized before analysis.

## Relinquished By

Name: Cliff Whitmus  
Date: 3/21/2014  
Time: 17:15

## Transported By

## Received By

Name: James G. Kelly  
Date: 3/21/14  
Time: 17:15

Name:  
Date:  
Time:

Name:  
Date:  
Time:



## AMEC

3500 188th St. SW, Suite 601  
Lynnwood, WA 98037  
(425) 921-4000

## CHAIN OF CUSTODY

AMEC Proj. BP2 Perimeter  
COC Number 062

## Analysis Containers

Recorded by: GSN

Checked by: \_\_\_\_\_

SMS Metals (As, Cd,  
Cr, Cu, Pb, Hg, Ag, Zn)  
TOC, and  
PCBs (by Aroclor)

Archive

AMEC Proj. BP2 Perimeter

SD-PER212-0314 Initials: GSN

COC Form

Date: 3/27/2014 Time: 846

AMEC Proj. BP2 Perimeter

SD-PER213-0314 Initials: GSN

COC Form

Date: 3/24/2014 Time: 933

AMEC Proj. BP2 Perimeter

SD-PER403-0314 Initials: GSN

COC Form

Date: 3/24/2014 Time: 1051

AMEC Proj. BP2 Perimeter

SD-PER405-0314 Initials: GSN

COC Form

Date: 3/24/2014 Time: 1134

AMEC Proj. BP2 Perimeter

SD-PER406-0314 Initials: GSN

COC Form

Date: 3/24/2014 Time: 1248

AMEC Proj. BP2 Perimeter

SD-PER426-0314 Initials: GSN

COC Form

Date: 3/24/2014 Time: 1329

Place Sample ID Label Here  
or Write ID Number Here

## Laboratory Sample Receipt

ARI Project Manager—Kelly Bottom  
AMEC Project Manager—Cliff Whitmus (cliff.whitmus@amec.com ph 425-921-4023)  
AMEC Laboratory Coordinator—Crystal Neirby  
(crystal.neirby@amec.com ph. 206-838-8469)

Sediment samples are unhomogenized Samples must be thoroughly  
homogenized before analysis

## Relinquished By

Name: [Signature]  
Date: 3/24/2014  
Time: 1700

## Transported By

## Received By

Name: John S. Miller  
Date: 3/24/14  
Time: 1700

# GPS CHECK FORMS

MARCH 2014

# AMEC GPS Check Form

Date: 3-11-14

Project: Perimeter Monitoring

Recorder: CSM

## Calculated Location of Reference Station

Coordinate Datum: WA State Plane, NAD 83

Zone: North Zone <sup>CONUS</sup> 10R596

Reference Station Name: Check Point 1

Northing 196376

Easting 1274699

Units of Measure: Survey Feet

Reference Station Description: Piling at downstream end of the South Park Marina at the  
end of the channel side dock.

## Start of Day

Time: 1026

Northing 196375

Coordinate Datum Setup Confirmed: 7

Easting 127499

Comments: \_\_\_\_\_

## End of Day

Time: 1705

Northing 196376

Coordinate Datum Setup Confirmed: Y

Easting 1274700

Comments: \_\_\_\_\_

# AMEC GPS Check Form

Date: 3-12-14

Project: Perimeter Monitoring

Recorder: Gsn

## Calculated Location of Reference Station

Coordinate Datum: WA State Plane, NAD 83

Zone: North Zone

Reference Station Name: Check Point 1

Northing 196376

Easting 1274699

Units of Measure: Survey Feet

Reference Station Description: Piling at downstream end of the South Park Marina at the  
end of the channel side dock.

---

### Start of Day

Time: 844

Northing 196376

Coordinate Datum Setup Confirmed: y

Easting 127499

Comments: \_\_\_\_\_

---

### End of Day

Time: 1623

Northing 196277

Coordinate Datum Setup Confirmed: y

Easting 1274701

Comments: \_\_\_\_\_



# AMEC GPS Check Form

Date: 3.13.14

Project: Boeing Perimeter Monitoring

Recorder: 6:17

## Calculated Location of Reference Station

Coordinate Datum: WA State Plane, NAD 83

Zone: North Zone

Reference Station Name: Check Point 1

Northing 196376

Easting 1274699

Units of Measure: Survey Feet

Reference Station Description: Piling at downstream end of the South Park Marina at the  
end of the channel side dock.

## Start of Day

Time: 840

Northing 196377

Coordinate Datum Setup Confirmed: Y

Easting 1274701

Comments: \_\_\_\_\_

## End of Day

Time: 1538

Northing 196376

Coordinate Datum Setup Confirmed: Y

Easting 1274701

Comments: \_\_\_\_\_

# AMEC GPS Check Form

Date: 3-14-14

Project: Perimeter Monitoring

Recorder: SSM

## Calculated Location of Reference Station

Coordinate Datum: WA State Plane, NAD 83

Zone: North Zone

Reference Station Name: Check Point 1

Northing 196376

Easting 1274699

Units of Measure: Survey Feet

Reference Station Description: Piling at downstream end of the South Park Marina at the  
end of the channel side dock.

## Start of Day

Time: 850

Northing 196377

Coordinate Datum Setup Confirmed: Y

Easting 1274701

Comments: \_\_\_\_\_

## End of Day

Time: 1548

Northing 196373

Coordinate Datum Setup Confirmed: Y

Easting 1274701

Comments: \_\_\_\_\_

# AMEC GPS Check Form

Date: 3-17

Project: Perimeter Monitoring

Recorder: GSV

## Calculated Location of Reference Station

Coordinate Datum: WA State Plane, NAD 83

Zone: North Zone

Reference Station Name: Check Point 1

Northing 196376

Easting 1274699

Units of Measure: Survey Feet

Reference Station Description: Piling at downstream end of the South Park Marina at the  
end of the channel side dock.

## Start of Day

Time: 8:33

Northing 196374

Coordinate Datum Setup Confirmed: Y

Easting 1274700

Comments: \_\_\_\_\_

## End of Day

Time: 1635

Northing 196373

Coordinate Datum Setup Confirmed: Y

Easting 1274700

Comments: \_\_\_\_\_

# AMEC GPS Check Form

Date: 3-21-14

Project: Perimeter Monitoring

Recorder: GSM

## Calculated Location of Reference Station

Coordinate Datum: WA State Plane, NAD 83

Zone: North Zone

Reference Station Name: Check Point 1

Northing 196376

Easting 1274699

Units of Measure: Survey Feet

Reference Station Description: Piling at downstream end of the South Park Marina at the  
end of the channel side dock.

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### Start of Day

Time: 853

Northing 196376

Coordinate Datum Setup Confirmed: X

Easting 1274699

Comments: \_\_\_\_\_

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### End of Day

Time: 1640

Northing 196375

Coordinate Datum Setup Confirmed: Y

Easting 1274700

Comments: \_\_\_\_\_



# AMEC GPS Check Form

Date: 3-24-14

Project: Perimeter Monitoring

Recorder: GSN

## Calculated Location of Reference Station

Coordinate Datum: WA State Plane, NAD 83

Zone: North Zone

Reference Station Name: Check Point 1

Northing 196376

Easting 1274699

Units of Measure: Survey Feet

Reference Station Description: Piling at downstream end of the South Park Marina at the  
end of the channel side dock.

## Start of Day

Time: 833

Northing 196375

Coordinate Datum Setup Confirmed: Y

Easting 1274700

Comments: \_\_\_\_\_

## End of Day

Time: 1609

Northing 196376

Coordinate Datum Setup Confirmed: Y

Easting 1274699

Comments: \_\_\_\_\_